University of Alberta

International Entry Mode Decisions of Professional Service Firms: The Case of Engineering Consulting

by

Namrata Malhotra ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy

in

Organizational Analysis
Faculty of Business

Edmonton, Alberta

Fall 1999

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June 23, 1999

To my Mom and Dad

Abstract

When firms enter international markets, they face a critical strategic decision about the means or the mode of entry. Past research primarily grounded in manufacturing firms identifies a variety of modes of entry including licensing arrangements, wholly owned ventures, acquisitions, and joint ventures. This dissertation provides an understanding of overseas entry mode decisions of professional service firms, focussing specifically on engineering consulting firms. It examines entry mode choices of North American engineering consulting firms entering a variety of countries.

The dissertation contributes to our understanding of entry mode choices of engineering consulting firms in two significant ways. First, it arrives at a new theoretical conceptualization of the entry mode construct as a multidimensional process. This was driven by the project based nature of engineering consulting and consequently, its project by project entry into an overseas market. The entry mode decision in the context of engineering consulting is more than just a choice of governance form. It involves decisions about following a project versus a market, following a client into the host country, setting up a physical presence in the host country, establishing a continuing legal form in the host country, and the degree of presence in the host country. Second, it identifies professional service firm characteristics, knowledge held in individuals, teams and the organization, relationship building with clients and business partners, and firm size as key predictors of different aspects of the entry mode process. The study highlights the professional service character of these firms and the project based nature of activity as central to their entry

mode decisions. The dissertation reaffirms more systematically that professional service firms are indeed different from manufacturing firms. Both in terms of the nature of their product and the core assets these firms are built on a different foundation and leverage different competencies.

Acknowledgments

First and foremost, I extend profound gratitude to Bob Hinings whose intellectual and inspirational support every step of this academic journey was invaluable. Bob epitomizes true scholarship coupled with remarkable modesty. I consider myself fortunate to have come in contact with a scholar of such calibre and a wonderful person capable of such kindness and understanding that never ceased to amaze me. Bob's involvement in this academic phase was more than that of a supervisor in that he has been a great mentor as I have struggled to discover an academic path and a direction for the future. I would like to thank two other bright scholars on my committee, Royston Greenwood and Harvey Krahn. I am very grateful to Royston for his thought provoking feedback at critical stages of the thesis, especially during candidacy. He always managed to trigger in me new ideas. I am extremely thankful to Harvey Krahn for useful suggestions in designing the questionnaire and his insightful comments on the thesis that helped improve the final product. I always valued Harvey's feedback and invariably gained something from it. A special thanks goes to David Parkinson who was very actively involved in the early stages of the thesis and was a great source of encouragement. I am thankful to Bente Lowendahl for her insights and suggestions.

I want to thank a very special person Jeanette Gosine. She made life plain easy from the beginning to the end and always with a smile. Jeanette extended to me her friendship and I will cherish the comforting chats from time to time. There are many colleagues and friends who have played significant roles in different stages of the process. I thank Ranjini Sivakumar for her friendship and her amazing ability to see a brighter side to the darkest of scenarios. I also wish to thank my friends Angelo Unite and Janice Thomas. Janice showed genuine interest in my work and encouraged me in every endeavour. Words cannot fully express thanks to a special friend, Teresa Rose. Teresa, your friendship and emotional support in the critical final stages of the thesis meant a lot to me. I would like to thank a dear friend Mary Oxner for her constant support and optimism. I will always remember with fondness the times we spent together that added some lighter moments to this process. I thank my other Ph.D. colleagues as well with whom I will always feel a special bond. I am especially grateful for their patience and understanding as they watched me monopolize a computer in the Ph.D. lab and as my folders and books piled up at an exponential rate! I am particularly thankful to Helen Lam for her valuable help in the final stages of the thesis. All my friends in India managed to inspire me despite the distance – to all of you, Thank You.

I extend deep gratitude to the executives in engineering consulting firms in Canada and the United States who willingly agreed to spare precious time to participate in the study. Their overwhelming enthusiasm and interest in the study was fascinating and a source of positive reinforcement. Without their cooperation this research would have been impossible. I cannot find enough words to thank my friends who provided me a place to stay in New York and Calgary where I collected most of my data. Seema and Pradeep gave me the courage to brave the streets of New York. Their hospitality and affection I will always remember. Teresa, Dick, and Janice made sure I found my way around Calgary and made it back home safe every evening, tape recorder, tapes and all!

I am extremely grateful to my Uncle and Aunt in Edmonton who never missed an opportunity to remind me that I had a home away from home. Your love and support are an important ingredient of what was achieved. I also thank my Grandma and my aunt Sudha for the countless blessings they have showered on me to succeed. Finally, I want to thank the two most special people, my Mom and Dad, who have relentlessly supported me in living my dreams. Their limitless love and encouragement has been my strength in taking on any challenge, this by far the most difficult. To them I dedicate this thesis with love and gratitude.

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CHAPTER 1

INTRODUCTION

Services have always been a challenge to describe because they lack the physical reality of a traditional mass-market product. There are interesting descriptions and definitions of services both in the academic and non-academic literature such as, "…services are what remains when agriculture, mining, and manufacturing are excluded (Enderwick, 1989: pg. 5); "…a service is something that can be bought and sold but which you cannot drop on your foot…" (Edvardsson & Gummesson, 1988: pg. 8); "…a service is experienced; it cannot be stored on a shelf, touched, tasted, or tried on for size…." (Shostack, 1977: pg. 73); Or "… a service is invariably and undeviatingly personal, as something performed by individuals for other individuals (Levitt, 1972: pg. 43).

The services sector comprises industries as diverse as real estate services, equipment leasing, hotels & restaurants, tourism, telecommunications, professional business services such as accounting, legal services, engineering consulting, and management consulting. The services sector has assumed increasing dominance in the world economy and has in fact, grown to become the largest sector in the economy (UNCTAD, 1996). Over the past three decades, an overall increase in employment in a number of major industrialized countries was accompanied by shifts in employment shares away from agriculture and manufacturing into services (Akyeampong & Winters, 1993). While the services share in employment and GNP has grown in almost all countries in the last two decades, data compiled for the top ten industrialized countries, which include Canada and the U.S., suggests that the employment in the services sector doubled between 1960 and 1990. In 1990, services accounted for the highest proportion of employment, nearly 72% of total employment, in both the U.S. and Canada (Akyeampong & Winters, 1993).

Even more significant is the remarkable increase in the globalization of services. International production, as reflected by the entire stock of foreign direct investment (FDI), has been growing at a rapid pace since the early 1980s, a growth that only briefly slackened during the FDI recession of the early 1990s. The total global FDI stock, almost quadrupled, from $679 billion in 1985 to $3.7 trillion in 1995 (UNCTAD, 1997). The worldwide FDI flows grew from $61 billion in the period 1982-86 to $174 billion in 1987-91. The FDI outflows increased between 1985 and 1995 by 20 percent, twice the growth rate of exports or output. The rapid increase in FDI flows was also accompanied by a noticeable sectoral shift from being highly concentrated in raw materials, other primary products, and resource based manufacturing in the 1970s, to mainly services and technology-intensive manufacturing in the 1980s. While services represented about a quarter of the world stock of FDI at the beginning of the 1970s, they now account for half of the world's FDI stock and 60-65% of FDI flows (UNCTAD, 1996). For developed economies as a whole, the share of the services sector in the total inward FDI stock increased from 31.4% in 1975 to 48.4% in 1990; for developing economies this share increased from 23.5% to 29.5% in the same time period (UNCTAD, 1992). Actually, the European Community became the single most important destination of services FDI in the 1980s. It appears that the sudden dynamism in FDI over the past couple of decades has been closely associated with the dramatic expansion of services FDI.

Clearly, in the 1990s the services sector is being explored more in an international context rather than a national setting. This is also evidenced by the attention the services sector has been attracting from policy makers at global trade forums such as the Uruguay Round of Multilateral Trade Negotiations. There are a variety of explanations proposed for the growing expansion of services across borders.

First, countries are recognizing that international competitiveness is increasingly associated with access to modern producer services, and the expectation that FDI in services will play a major role in shaping investment flows. Both developed and developing countries have begun to anticipate a freer regime for services by opening up their services markets to foreign investors. Second, the expansion in services can also be explained by the profound qualitative changes, which many services have undergone in the past decade. There has been a steady increase in the role of intermediate or producer services (e.g., accountancy, insurance, information processing services, engineering design, legal services, banking etc.) in the value added to a good and the significance that producers of goods now attach to them (Dunning, 1989). In particular, the technological, information, and knowledge component of most services has vastly increased. For example, new uses have emerged for accounting as a tool for management and control of information and knowledge. Third, much of the momentum to the globalization of services, especially professional services such as accounting, appears to have been demand driven or client driven (Erramilli and Rao, 1990; Aharoni, 1993b). Fourth, another significant development that has given a boost to the services sector both domestically and globally is the increasing tendency of firms in the non-service sector to externalize some of their less productive service activities (Dunning, 1989; Lowendahl, 1997). This has been particularly critical to the expansion of professional services such as accounting, auditing, and legal services.

Professional business services (PBSs) are an important subsector of the services sector. Professional services cover a range of activities involving individual providers with specialized knowledge, skills and responsibilities (UNCTC, 1990). In the past few years there has been a significant increase in the level of international trade and investment in professional services provided by professional service firms such as accounting firms, law firms, engineering consulting firms, and management consulting firms. UNCTC (1988) data suggests levels of trade of the order of 10 percent of domestic turnover. There are competing explanations for the increasing rate of international expansion of professional service firms (PSFs). It may be a response to falling tariff barriers and easing of other government or professionally imposed restrictions (UNCTC 1988). Baden-Fuller (1993) suggests that the changing legislation regarding partnerships and incorporation of PSFs has been a necessary precursor to international growth. Professional practices that could only be unlimited partnerships can now assume a limited partnership structure or even a corporate structure. This deregulation has facilitated setting up larger practices and expansion internationally. The globalization of PSFs was triggered by domestic clients first going multinational and insisting that their professional service providers follow them (e.g., Aharoni, 1993). Following the client definitely stimulated globalization of accounting services and is quite typical of some sectors in engineering consulting, especially the oil and gas sector.

Over the past few years there has been a noticeable surge in research interest in the *globalization* of professional service firms. Aharoni (1993), a collection of contributions from academics and members of the GATT and UNCTAD, was the first concerted attempt at enumerating various aspects of global operations of PSFs. The emphasis was mainly on assessing the opportunities for growth internationally, the problems of managing international expansion, and environmental and regulatory issues (e.g., Ascher 1993; Fladmoe-Lindquist, 1993; Hirsch, 1993). One specific dimension of globalization that has been quite central in the international business research is the choice of overseas entry mode decisions. In the early 1970s, the decisions to export/trade or to engage in FDI, were explicitly recognized by researchers as alternative options or routes available to a firm to transfer resources such as technology, management, organizational and marketing skills from the home country to the host country. Exports involve independent transactions between unassociated buyers and sellers, and are concluded at market or 'arms-length' prices. FDI involves the transfer of resources from one part of an enterprise to another, that is, under the control of a single organization.

In the 1980s, the exports versus FDI decision was further expanded to include different forms or modes of FDI such as greenfield investments or wholly owned subsidiaries, acquisitions, and different types of joint ventures (e.g., Hirsch, 1976; Caves, 1982; Anderson & Gatignon, 1986). This is more formally referred to in the literature as the choice of mode of entry decision made when a firm enters international markets. Other forms of investment often referred to as 'new forms of investment' (e.g., Oman, 1984; Hennart, 1989) also came to be recognized as important modes of transferring resources from the home country to the host country. These include various types of contracts such as licensing, franchising, management contracts, turnkey contracts, production-sharing contracts, international subcontracting as well as joint ventures in which foreign equity ownership does not exceed 50 percent. The new forms of investment lie in a gray area between arms-length exports and wholly or majority-owned foreign subsidiaries.

An overview of the literature suggests that despite extensive theoretical and empirical research in entry mode decisions, there is a clear bias towards the manufacturing sector to the neglect of the service sector in general, and professional business services in particular. There are only a handful of studies addressing this issue in the services sector (Erramilli & Rao, 1990; Erramilli, 1992; Erramilli & Rao, 1993). None of these focus exclusively on professional service firms. The Group of Negotiations of Services (GNS) which is entrusted with the task of drafting a services framework is actively discussing issues around different modes of delivering professional services. Such a framework has been under negotiation in the Uruguay Round of Multilateral Trade Negotiations since 1986. There are some descriptive discussions on the choices different PSFs make in the way they go international. Some firms service overseas clients from the home base, some use roving teams to do overseas business, others form alliances or joint ventures with overseas firms, and some may establish something overseas or even acquire firms (Baden-Fuller, 1993). Further, different professional services may adopt different approaches and in fact, there may be variation even within the profession. For example, Arthur Andersen has a different approach to its international practice than the other major accounting firms (Aharoni, 1993).

In the light of the increasing international expansion of professional service firms, the choice of mode of entry decision merits more research attention. It is important that the scarcity of research in this area and other aspects of globalization be perceived not just in terms of fewer studies but against the back drop of the rapidly growing power of these firms in the world economy. The power of PSFs can be illustrated in a number of ways. A good example is that of the big six accounting firms which earn a world-wide income of over $ 30 billion, which has been growing in recent years by 25 percent a year (Strange, 1997). Another example is of the top 200 international consulting engineering firms that in the mid 1990s performed projects outside their own countries worth approximately C$13.5 billion a year. The rate at which these firms are gaining influence can be illustrated by the growth of Anderson Consulting that did not exist until ten years ago. Today, it employs over 50,000 people, operates in six continents, competes with the likes of AT& T and IBM, and generates revenues of over $6 billion, and is growing at better than 25% annually (Fortune, Nov. 10, 1997). In the engineering consulting industry, SNC Lavalin Inc. and AGRA Inc. are good exemplars that have demonstrated exponential growth over the past ten years and are now positioned to manage both domestic and international projects that were way beyond their capacity five to ten years ago. The rising influence of professional service industries is also manifested in the increasing degree of concentration of power through mergers and amalgamations, especially in the accounting and engineering consulting industries in the past decade.

The domination is also becoming apparent from the extent of diversification by area of service activity. Accounting firms are no more only about accounting but have come to be characterized as business advisory firms. They have been moving into consulting in a big way in response to the growing demand from corporate managers for advice on management strategy, corporate finance, legal services, and information technology. Of the seven largest consulting firms in the world today, six are actually part of accounting firms (Fortune, Nov. 10, 1997). The world's largest corporations in different parts of the world are becoming increasingly dependent for advice from these firms.

Similarly, engineering consulting firms are striving towards becoming large, integrated engineering outfits so they can offer a full range of project delivery services to a client. This is often referred to as the full service solution ranging from project financing to the final commissioning of a project. Engineering consulting firms are also starting to get into management consulting and financial consulting services so they can operate in a total project advisory capacity. In a recent report produced by Industry Canada on the prospects of the Canadian engineering consulting industry, there is a strong emphasis on the global sales opportunities that the Canadian consulting engineers can create for Canadian suppliers, manufacturers and construction firms. Such linkages through out the economy have a multiplier effect on Canadian employment and income (Industry Canada, 1997). This is further evidence of how influential these firms are becoming domestically and internationally. Globally, these firms are playing a critical role, especially in developing countries assisting them in their infrastructure development and minimizing environmental hazards, an issue that has become a global necessity. Clearly, professional service firms are diversifying and growing along multiple axes – by discipline, by market, and by geography.

In the light of this burgeoning power of professional service firms worldwide, the scarcity of research becomes more blatant calling for attention. Research in various aspects of managing and organizing these firms, especially globally, will add to our theoretical understanding of different aspects as well as be illuminating for those managing the firms. The choice of mode of overseas entry decisions of professional service firms is one area that certainly warrants research attention. It is an important strategic decision that entails a commitment of substantial resources, and is difficult to change without considerable loss of time and money (Root, 1987). The importance of the choice of mode of entry into overseas markets is also reflected in its being one of the most widely researched areas in international business since the 1980s. It has been prioritized as one of the most significant decisions that a firm needs to make as it embarks upon a global strategy to penetrate a foreign market (Agarwal & Ramaswami, 1992). In fact, after a firm decides to exploit its competitive advantages abroad, the most critical decision to follow is the choice of a route or mode for doing so. Given that professional service firms are rapidly globalizing and there is little knowledge that exists about their entry mode decisions it made sense to investigate this dimension of globalization of PSFs. In the manufacturing sector, there is ample evidence that the choice of mode of entry decision is complex and challenging for managers in that it involves multiple factors pulling the decision in different directions. This certainly raises one's curiosity about how professional service firms make these choices, especially given that the notion of a "product" and of what these firms actually sell is not as cut and dried as it is for manufacturing firms.

The objective of this study is to understand the choice of mode of international entry decisions of professional service firms. The research focuses specifically on engineering consulting firms, a type of professional service firm. The purpose is to understand the choices these firms make with respect to their modes of entry when they enter oversees markets and to identify the issues that affect these choices.

This research is motivated by two issues. First, professional service firms are under-researched especially in different aspects of globalization even though they are assuming an increasingly dominant role in the world economy as service providers and employers. Entry mode decisions, a key dimension of internationalization, need particular attention. Second, professional service firms have unique characteristics that *differentiate* them from manufacturing firms. Hence, we know that there has been little research in PSFs and almost none in overseas mode of entry decisions and that professional service firms are different. One can assume that these unique characteristics result in specific issues or problems for professional services that manufacturing firms can avoid. Therefore, one could expect that professional service firms might require a different theoretical basis that fully incorporates their special features to understand their entry mode decisions.

In the following sections, I discuss the status of research in professional service firms and describe in detail the firms and highlight what makes them different. This sets the stage for a discussion on why it seemed interesting and important to understand the international entry mode decisions of these firms. I then explain what motivated the choice of engineering consulting firms for this research.

Why Professional Service Firms?

Professional service firms did not attract much research attention until the late 1980s and early 90s. They were certainly not adequately addressed in the management, sociology, and organizational literature (Greenwood, Hinings, & Brown, 1990). There is evidence of research on services in general mainly in the marketing literature (e.g., Gummesson, 1978; Lovelock, 1984; Gronroos, 1985) but there is little exclusively on PSFs. Research in the 1980s and early 90s focused primarily on internal organization and management aspects of PSFs such as issues of governance, processes of change, strategic alliances and mergers (e.g., Greenwood, Hinings, and Brown, 1990; Hinings, Brown, and Greenwood, 1991; Morris, 1992; Greenwood, Cooper, Hinings, and Brown, 1993; Greenwood, Hinings, Brown, 1994; Lee and Pennings, 1995). It is important to note that most of this research is centered in accounting firms and law firms. As far as globalization is concerned, there have been a few studies addressing the process of internationalization and issues concerning managing international expansion (e.g., Weinstein 1974, 1977; Terpstra & Yu, 1988; Li & Guisinger, 1992; Aharoni, 1993; Cooper, Brown, Greenwood, and Hinings, 1994; Dunning & Kundu, 1995; Rose & Hinings, forthcoming,1999). But studies examining overseas entry mode decisions of services are few and far between (e.g., Erramilli & Rao, 1990; Erramilli, 1992; Erramilli & Rao, 1993) and none of these examine PSFs alone.

One thing that consistently filters through the research on PSFs to date is that these firms are different from manufacturing firms and, therefore, merit special research attention. Further, it is also apparent that knowledge intensive firms, which include PSFs, are increasingly perceived as key to the future comparative advantage of developed economies (Lowendahl, 1992).

What makes PSFs different?

A professional service firm can be characterized as an amalgamation of a *professional entity*, a *service provider*, and a *knowledge creator*. Lowendahl (1997) very comprehensively defines a professional entity or firm as one that employs more than 50% professionals who are in charge of key decisions and activities, that gives high priority to professional goals, including altruistic problem solving for the client, and its code of conduct incorporates the norms and values of the profession. A professional firm is usually also a service provider. Gronroos (1985: pg. 19) defines a service as "an object of transaction offered by firms and institutions that generally offer services or that consider themselves service organizations." Riddle (1986) provides a more explicit definition distinguishing services from manufacturing and extractive industries: Services are economic activities that provide time, place, and form utility while bringing about a change in or for the recipient of the service. Services are produced by (1) the producer acting for the recipient; (2) the recipient providing part of the labour, and/or; (3) the recipient and the producer creating the service in interaction.

When a service is delivered by a professional firm according to the professional norms or rules of conduct it fits the category of a *professional service*.

Services can be classified as equipment based or primarily people based and professional services fit the latter category employing mostly highly skilled people (Aharoni, 1993). A *professional service firm* is an organization which provides services to clients through an organizational form where the majority of staff are professionals accredited by an external professional body, and where the organization is an autonomous unit, governed by professionals (Hinings, Brown, and Greenwood, 1991). Professional service firms include a variety of industries including accounting, law, engineering consulting, architecture, and management consulting (Maister, 1993; Greenwood and Lachman, 1996).

Professional service firms are *knowledge creators* in that they are mainly devoted to the creation, application, and accumulation of knowledge. They trade mainly on the knowledge of its human capital, that is its employees and producer-owners, to develop and deliver solutions to client problems (Morris, 1998). They apply somewhat abstract knowledge to particular cases (Abbot, 1988). The term professional service firm has often been used interchangeably with a knowledge-intensive firm or a knowledge-based organization (Starbuck, 1992; Alvesson, 1995). Knowledge intensive firms in general have been characterized in terms of three key characteristics (e.g., Gummesson, 1978). One, they focus on problem solving and non-standardized production. Two, they rely heavily on individuals rather than on capital which makes the firms considerably vulnerable if people leave the organization. Three, educational levels and the degree of professionalization among employees are high.

The notion that professional service firms are different from manufacturing is expressed in a variety of forms by different authors in past studies, in particular, PSFs are *unique* or are *different* and other authors do so in more subtle ways (e.g., Maister, 1993; Lowendahl, 1997; Hinings, Brown, and Greenwood, 1991; Aharoni, 1993; Campbell and Verbeke, 1994). Key differentiating characteristics that have been brought up in past research as having implications for a professional service firm's internal management processes and its globalization processes are the intangibility of service, need for customization to clients needs, inseparability, heterogeneity of service, and human capital as the dominant asset. Services in general bear these characteristics but PSFs appear on a higher end of the continuum in terms of the degree of customization, the degree of provider-client interaction, and the degree of labor intensity (Schmenner, 1986).

Campbell & Verbeke (1994: pg. 96) very succinctly describe intangibility of services,…" since services are performances rather than objects, they cannot be seen or touched in the same manner as goods…". This creates uncertainty in the minds of the clients about the quality of the final outcome. Lowendahl (1997) describes two challenges posed by the intangibility of the service: one, service quality is difficult to guarantee as it is impossible to "test-drive" a service; and two, operations management becomes complicated too because services cannot be stored. The problem of uncertainty arising from intangibility is further compounded by two other factors. First, the service is highly customized and thus, needs to be adapted to meet the idiosyncratic needs of clients. Second, the information asymmetry that often exists between the consultant and the client makes it even more difficult to deal with the intangibility dimension of a service. Each of these is discussed in more detail in the following paragraphs.

A high degree of customization suggests that there is a greater element of innovativeness involved making quality evaluation even more difficult. The more unique a service is to specific circumstances the more difficult it is to achieve standardization of operations (Aharoni, 1993). This is certainly an additional challenge for services unlike manufacturing, where the final product is largely standardized. Now the degree of standardization or customization and the scope for innovativeness does differ across different types of professional services. Maister (1986) notes that PSFs can sell three things and any firm may specialize in one of these three E's: their expertise, experience, or their execution capability. On one end of the continuum are services that are highly customized based on creativity and innovativeness and more non routine problem solving and on the other end are services that are more routine involving standard procedures. For example, auditing is relatively more standardized than engineering and architectural designs for buildings.

Regarding the asymmetry in information between the consultant and the client, while clients perceive the service providers as having the expertise and the superior knowledge, at the same time this gap in knowledge creates uncertainty in the minds of the clients. Lowendahl (1997) explains that PSFs are typically hired because they have some expertise that the client does not possess but the more specialized this expertise the more difficult it is for the client firm to evaluate the quality of the final outcome. This certainly poses a challenge for the management of PSFs and exacerbates the uncertainties experienced by the client. The firms need to focus on ways of building trust and providing assurances of quality to the client.

A key differentiating characteristic of PSFs is human capital as the dominant asset in these firms (Aharoni, 1993; Lowendahl, 1997). Maister (1982) describes a PSF as the ultimate embodiment of that familiar phrase "our assets are our people". PSFs actually sell to their clients the experience and services of particular individuals and in fact, clients often demand names of the people who would be involved in delivering the service (Lowendahl, 1997). Managing people as the main asset presents different challenges and issues ranging from hiring, training, and more importantly, retaining them. PSFs build their competencies on people but the risk is that people can walk out of the door. The risk exposure for PSFs going overseas is different from manufacturing firms, which involve substantial investment in capital and fixed assets whose movement across boundaries is prohibitively expensive and difficult.

The characteristic of uniqueness of services coupled with the added variability that naturally arises because of the services being people based lends a characteristic of heterogeneity to these services (Aharoni, 1993; Campbell & Verbeke 1994). Heterogeneity emphasizes the need for consistency both in quality of the final outcome as well as in the process of service delivery.

Another important dimension of services is that it is not just the final outcome but the process of delivery of service or the interaction that is absolutely critical, especially in services such as engineering consulting, which involves multiple stages before the final product is ready. Maister (1993) suggests that in addition to the challenges faced by the customization feature of PSFs, another special managerial challenge is the strong need for face to face interaction with the client. The need for face to face interaction becomes particularly critical to build client confidence and allay the quality uncertainties that stem from the intangible nature of services. Further, since services are often idiosyncratic to a client's needs continuous communication and interaction are vital. This is probably why when services are described by customers, the value of experience, trust, feeling and security is emphasized (Gronroos, 1990) and face to face interaction is a way of facilitating it. Part of what clients purchase is the process of interaction (Fladmoe-Lindquist, 1993). Also, in the more process oriented businesses such as engineering consulting, management consulting, etc., it is difficult to negotiate all parts of a contract ex ante and difficult to anticipate all contingencies in advance, thus requiring ongoing communication and negotiations. More recently, the trend has been for clients to participate even more actively in the process of developing and implementing solutions to their problems.

Inseparability makes it necessary for the production and consumption of service to occur simultaneously. This has also been referred to as the S (simultaniety) factor (Hirsch, 1993). This simultaneity of production and consumption of service obviously requires a high level of consultant-client interaction. However, the degree of inseparability is not generalizable across different services. For example, inseparability is clearly evident in medical services and legal services but required to a relatively smaller extent in auditing and engineering consulting. This becomes even more complex where there are certain tangible elements such as drawings and reports, which decouple production and consumption, but at the same time the processes leading to that final tangible outcome often involve the client and the provider being present in the same place at different stages.

Knowledge is central to professional service firms. Feketekuty (1986) defines professional services as the application of knowledge and skills by experts to meet their clients' needs. The products of PSFs are more complex relative to manufacturing and even some of the mass service firms. They need to be bundled in different ways to customize to a client's unique problem which requires the application of abstract knowledge held by individuals and collectively in the organization (Morris, 1998; Jones, Hesterley, Fladmoe-Lindquist and Borgatti,1998). The heterogeneity, the dynamics in the process of service delivery, and the difficulty in measuring what might be a good process, and the greater role of innovativeness which makes it more difficult to assess and measure quality or establish clear benchmarks, points to one thing being vital to the survival and growth of PSFs – reputation. Both the reputation of the firm and the professional reputation of the professionals in the firm are critical to the clients. A core strategic resource of PSFs is their reputation based on their ability to attract high quality and loyalty from their skilled professionals. Given all the uncertainties and gray areas in the professional services business, personal trust becomes an important factor. This is where both the reputation of the firm and its staff, and the personal relationship with a specific professional are critical for the client (Lowendahl, 1997). Creating and sustaining a reputable image of the firm as a whole and at a personal level with individual clients constitutes the firm specific image of PSFs (Aharoni, 1993; Dunning, 1993).

Professional services are much more personalized and building relationships both with clients and the business network play a pivotal role in creating more work opportunities. Thus, PSFs are not just about technical know-how or expertise but also know-who and the ability to inculcate good relationships for the long-term. The degree of personal element involved in professional services is another factor that differentiates PSFs from manufacturing firms. According to Jones et al. (1998: pg. 6), client relationships are "the bonds and specialized knowledge that develop from the intense, reciprocal, and repeated interactions between clients and the providers during the creation and delivery of a professional service". A further challenge is the need to invest continuous time and energy to sustain these relationships. A firm's reputation stems not just from it reservoir of expertise and accumulation of experience but also from relationships. This could be surmised from the existing services literature and the little research that exists in the area of globalization of services.

The differences between the inherent characteristics of professional service firms and manufacturing firms might have some interesting implications for the choice of mode or the means of entering an overseas market. The characteristics clearly point towards issues of quality maintenance, reputation, creative problem solving and sharing of knowledge, developing "people", the key asset on which these firms build their competitive advantage, interaction with the client and focus on the process rather than the outcome, relationship building, and reducing uncertainty in the minds of the clients. One would expect these issues to have some implications for the means or the mode by which PSFs enter overseas markets and that are not seen in a manufacturing set up. The nature of the dominant asset is different for professional services relative to manufacturing, the whole notion of what constitutes a product is different relative to manufacturing, the degree of customization is different, the level of uncertainty involved is different, the personalized component is different, the nature and extent of face to face interaction required is different and the focus on problem solving is central to professional service firms. Based on these differences, one could debate on whether the existing theoretical knowledge in the area of market entry and choice of modes will be directly applicable to professional service firms. The few existing studies on different aspects of the globalization of PSFs provide some cues on how the features of PSFs might have interesting implications for internationalization decisions and processes. This further strengthens the motivation that overseas entry mode decisions of PSFs are worth exploring. Some examples of how PSF characteristics affect different aspects of their international activity are provided in the next section. These examples are a positive indication that PSF characteristics matter and played an important role in strengthening my motivation and belief that overseas entry mode decisions of these firms are worth exploring.

Why are PSFs interesting in the context of overseas entry mode decisions?

Several past studies on the global aspects of services and PSFs, in particular, suggest that differentiating characteristics of PSFs have implications for the globalization of these firms and existing theoretical knowledge based primarily in manufacturing firms may not be directly applicable. Aharoni (1993: pg. 131) comments, "…these characteristics mean that professional business services face many obstacles to global operations that severely hinder, if not prohibit creation of an integrated world market for these services….". The main thrust of past research in globalization of PSFs is on the internationalization processes of these firms, their internal management processes, and governance structures. But there are issues raised in this literature that provide some cue to how the differences might impact other aspects of internationalization such as entry mode decisions of these firms.

For example, Aharoni (1999, forthcoming) points out that international trade in services requires international movement of factors of production. Since services are intangible and thus non-storable, they cannot be transported and have often to be produced in the place in which they are consumed. UNCTAD (1996) also suggests that a dominant characteristic of the services sector is that trade as an option to deliver services abroad exists to a very limited extent as services are often non-storable and need to be produced when and where they are consumed. As a result, the gradual conquest of foreign markets through a linear approach that fits manufacturing firms is "truncated" for many of the services. That is, with trade not being an option they have to go directly into FDI. Of course, these firms frequently use non-equity arrangements or temporary relocation of personnel across borders. Thus, intangibility and inseparability of production or consumption of the service both appear to be important for delivering services abroad. Further, it has been pointed out that globalization is easier when services are more standardized (Porter, 1990). The lack of standardization has implications in the form of the types of economies in the sense that economies of scale from *production* are difficult. Economies of scale in services mainly exist in marketing (Campbell & Verbeke, 1994).

Multinational service firms build on different core competencies as compared to manufacturing multinationals. In PSFs, the core competence of a firm lies in the management of its human capital. Given that the knowledge at its most basic level is held by the human capital of the firm, this raises interesting implications for a firm's overseas operations. Campbell & Verbeke (1994) while examining the principles that guide the strategic management of service multinationals point out that these firms face a critical challenge in whether knowledge should be created in the home country and transferred to the host country or whether knowledge should be developed and diffused from various geographical sources. In manufacturing, it is relatively easier to concentrate research and development at one place. Production, where the role of fixed assets is central, can be more geographically dispersed and planned based on the global economies of production. The situation with services gets rather complicated because the dominant assets of people are not replicable like machines and there is no concept of mass production or batch production. Schmenner (1986) argues that the dominance of human capital in professional services call for very careful attention to hiring, training, and inculcating loyalty in the employees. This can make starting up new units or offices in far flung areas difficult. On the other hand, people as assets also add a degree of flexibility. For example, Sharma and Johanson (1987) in their analysis of the internationalization of technical consultancies draw attention to the fact that professional consultants are not fixed assets. They further suggest that people as an asset are more versatile in that the skills possessed by consultants can be utilized in a number of ways and can be moved from one country to another at short notice and at a relatively low cost. The cost of moving production to another country and setting up a foreign affiliate is relatively cheaper for some of the services such as professional services, advertising, etc., which are far less capital intensive than manufacturing (e.g., Terpstra & Yu, 1988)

While reputation and brand image are critical in any industry including manufacturing, the reputation of a professional service firm is particularly vital for its survival. It is an asset that takes a substantial amount of time and effort to develop (Maister, 1993). In an international context, it becomes even more critical as the effect of reputation is not localized but a poor reputation in one country is likely also to damage the firm's reputation in other parts of the world. Aharoni (1993) calls it the externality problem in reputation. As lawyers go from case to case, auditors move from one audit to another, engineering consultants go from one project to another, reputation is critical in facilitating the process. It is more susceptible to damage as it is dependent on a process of interaction and service delivery and expectations of quality, which can be rather subjective and involve a high element of personal judgment. Hence, it can be very difficult to maintain the reputation of the firm across all its international outfits.

Marketing of services too can be a challenge and a different ball game compared to manufacturing. Shostack (1977) suggests that many marketing professionals who transfer to the services arena find their work fundamentally "different", but have a difficult time articulating how and why their concepts have changed. Relative to mass marketing of consumer goods, selling professional services requires more interaction, often face to face, with the client and more emphasis on building relationships. This could be an important factor in influencing the type of mode of entering a country and ensuring a growing clientele there. Weinstein (1977) in a study on the international entry of US advertising agencies suggests that even though the output of advertising can be stored and does not have to be simultaneously consumed as produced, yet the overwhelming proportion of international transactions in advertising involve FDI rather than arms length transactions. This is because successful advertising requires a presence in the market and close interaction with potential buyers to understand their psychology.

Some issues are likely to be *common* to the globalization of both manufacturing and professional services. For example, host country restrictions on foreign ownership and form of ownership, policies about hiring nationals, repatriation of profits, and taxation and exchange controls (Dunning, 1993). A United Nations (1993) study demonstrated that the foreign direct investment activity of business services in developed countries is positively related to market size and home country business and negatively related to cultural distance between the home and host countries. This is similar to the patterns observed in the multinational activity of manufacturing firms.

The transaction costs approach has been one of the most popular in comparing the relative benefits and costs of different organizational arrangements, such as market contracts, joint ventures, or wholly owned subsidiaries adopted when entering overseas markets (e.g., Buckley and Casson, 1985; Dunning, 1988; Hennart, 1982). These cost benefit comparisons, however, are likely to be more complex and difficult for PSFs because the crucial assets of the organization are not the tangible assets comprising furniture, computers, and office space but it is people that work there. Further, it has been pointed out that because of the nature of their activity, PSFs achieve their firm-specific knowledge and advantage by being part of a network or through strategic alliances rather than by ownership and hierarchy (Aharoni, 1993; Lowendahl, 1993).

The above examples drawn from the existing literature on globalization of PSFs reflect to some degree the role of intangibility, inseparability, and customization and more forcefully, the different implications of "people" as the dominant asset. There was enough indication that exploring entry mode decisions for these firms would be interesting. The discussion so far has focussed on PSFs under one umbrella. It is important, however, not to lose sight of the heterogeneity within the professional services sector. Under the overriding PSF characteristics, one finds very diverse firms with idiosyncratic processes and logistics of service delivery. For example, performing an auditing service for a firm in Russia is quite different from designing and supervising the construction of a bridge or the design of a crude oil production and processing facility in Russia. This would likely have repercussions for the mode of entering an overseas market. In light of the diversity, this study had to be confined to one industry. The details are presented in the next two sections.

Rationale for an industry specific study

Different approaches to international activities are seen across various professional service industries and in fact, even within a profession (Baden-Fuller, 1993). Accounting firms are an excellent example for the latter case. Arthur Anderson has taken a totally different approach to its international practice compared to other accounting firms by forming a single world-wide partnership in which each country is in effect a separate branch, while other firms have formed complex alliances

(Aharoni, 1993). Law firms may set up worldwide networks or other types of multinational alliances. Engineering consulting firms generally set up temporary joint ventures and sometimes permanent offices. Hence, it is likely to be difficult to arrive at a mode of entry model generalizable to all professional service industries and the service sector as a whole. Daniels (1985: xvi) warns that the diversity of the service sector 'defies applications of a principle theory, a particular analytical method, or a dominant mode of interpretation'.

While an industry specific investigation is restrictive in that it does not provide insight extending across different professional service industries, it is useful in two ways: first, it enables in-depth analysis of a particular industry without losing the impact on the mode of entry decision of characteristics unique and idiosyncratic to that specific service; and second, when conceptual development in an area is in its infancy and there is also convincing evidence of diversity, it makes sense to start the process by generating conceptual frameworks unique to specific professional services, which may eventually be extended to generate a more generalizable entry mode framework.

Having decided on an industry-specific study, the next crucial decision was to select a suitable professional service industry.

Rationale for Selecting the Consulting Engineering Industry

Since overseas entry mode decisions are at the core of this research, the first and foremost criteria for selecting a professional service industry was its pace of international activity in the past few years. An in-depth understanding of these decisions would be best achieved by choosing professional service firms that have been actively making entry mode choices in recent years. A brief overview of the history of internationalization of accounting, engineering consulting, and law firms suggested that engineering consulting firms were most ripe for this study. Accounting firms could be characterized as matured internationally, with key decisions of entry having been made a couple of decades ago. Law firms are very young on the global scene. In comparison, engineering consulting firms are at the peak of international activity in terms of expanding into new countries since the late 80s. This was also supported by statistics compiled by *Engineering News Record* (ENR), which indicated that the top 200 design firms performed projects internationally worth C$13.5 billion in 1994 (ENR, July 24, 1995). Further, North America dominated the global consulting engineering markets. Between 1983 and 1992, the United States' share of the world market for engineering consulting services increased from 31.3% in 1983 to 51% in 1992 which is the largest market share held followed by Western European and Canadian consulting industries (Niosi, 1995). The U.S ranked first and Canada ranked fourth in total international billings in consulting engineering in 1994 (ENR, 1995). Clearly, North American engineering consulting firms fit the objective of this research perfectly.

Historically, the internationalization of engineering consulting services was propelled by a rapidly growing demand from developing nations that embarked on ambitious development projects but lacked the expertise in designing and managing them. Further, opportunities also emerged from the availability of petro-dollars in the Middle East and to some extent in Latin America (Aharoni, 1993). North American engineering firms in particular were motivated to sell their knowledge or expertise overseas because of a saturated home market as well as a steep rise in demand for engineering services in Asia, Eastern Europe, and the Middle East. The vast majority of this demand for new projects has been generated by developing or redeveloping nations (AGRA Inc., 1997 Annual Report). These firms play a significant role in meeting the extensive needs for infrastructure and engineering services in the developing countries.

Today, China, India, Southeast Asia, the Middle East, Latin America, and Eastern Europe are among the fastest growing world markets for engineering and construction services. North American firms have practically dominated all the six markets. An unmistakable growing trend of internationalization among North American engineering consulting firms and an unrelenting demand for their services abroad further supported the choice of this industry and venue for exploring overseas entry mode decisions.

Rimmer (1988: pg. 761) defines engineering consulting as follows: 'An engineering consultancy devotes itself to advising the public on engineering matters or to the designing or supervising the construction of engineering works, and for such purposes occupies and employs its own office and staff, and is not directly or indirectly concerned or interested in commercial or manufacturing interests such as would tend to influence its exercise of independent professional judgment in the matters on which it advises'. Engineering consultancies grow up either around an industry or a group of industries, or around a process common to several industries (Roberts, 1973). Engineering consulting services include planning and feasibility studies, cost estimating, design and design implementation, preparing contract documents and bid evaluations, supervision of construction, training and transfer of technology, inspection/testing/laboratory analysis and preparing environmental assessment reports (ACEC Guidelines to Practice, Vol. I, 1984). Engineers receive a special kind of training and have a distinctive kind of knowledge and thus, are treated as experts whose expertise is organized through the professions (Whalley, 1991). According to Stanley (1961), engineering consultancies have had little to sell since their inception, except service, time, and knowledge.

A significant development in this industry was a switch to a corporate focus in the 1970s, which has greatly facilitated the spread of activities to encompass the whole world (Rimmer, 1988). Today, the engineering consulting industry worldwide is highly fragmented, with roughly 1,00,000 firms competing in the international market, most of them with less than 100 employees. They are competing for a global market worth an estimated $75 billion (U.S.) (The Globe and Mail, Aug 31, 1998, ROB: Managing Section, pg. 9).

Engineering consulting espouses the values of a professional service and bears all of the PSF characteristics discussed earlier. This is reflected in the Engineering News Record magazine and in company brochures. Here are a few examples of mission statements and objectives of different engineering consulting firms–"….we think professionalism is reflected in the care, thoroughness and dedication which one exercises. Also, it acknowledges the concept of a duty which supercedes self-interest…"; "…..we have developed an enviable reputation for integrity, stability, reliability; we are building on strengths that would make us better problem solvers and implementers for our clients.."; "….our objective is to be successful at understanding unique consulting needs of each client…"; "…we are proud of our staff and the skill and knowledge they can provide to our clients…"; "….we have diversely experienced staff with expertise and in-depth professional knowledge…"; we have a responsive, flexible, and highly skilled team of employees to serve out clients around the world…""….in addition to technical standards, personal relationships with our clients are a priority including effective communication….". All of these examples manifest the importance of reputation, the quality of people in the firm, the pivotal position of the client, a need for good relationships and interaction with the client, and customization. Clients are not just looking for top-notch engineers; they want quick access to a full range of project delivery services, in whatever service package they need (CH2M Hill, Annual Report, 1995).

Research on different global aspects of engineering consulting firms is quite scanty. There has been work on the process of internationalization of engineering consulting firms (e.g., Sharma and Johanson, 1987). Further, there has been some interest in governance features of professional engineering firms and the role of professional ideals and values in the governance of these firms (Lowendahl, 1992). There is little known about the different entry modes prevalent in the engineering consulting industry. It has been pointed out that among services such as engineering, architecture, accounting, and legal services partnerships or minority joint ventures with local partners are common because they provide access to local specialized knowledge and facilitate individual customization of products (Dunning, 1989; UNCTC, 1989). Also, in professional services such as accounting, engineering consulting, and legal services whose main assets are human capital, reputation, connections, and brand names expensive fixed assets that are the basis for capital equity are not required; so their competitive advantage can be controlled through non-equity arrangements such as partnerships (Dunning, 1989, UNCTC, 1989). In the beginning of my research, I drew on descriptive engineering literature (e.g., Issues in Engineering- Journal of Professional Activities, Proceedings of the American Society of Civil Engineers; ENR magazine) for examples of the ways in which these firms organize themselves abroad. These included acquisitions, wholly owned subsidiaries, permanent joint ventures, branch offices, project offices, temporary joint ventures, subcontractual agreements, associations, and consortia. This supplemented the scanty information on modes of entry of engineering consulting firms in the academic literature.

To summarize, a combination of factors persuaded me to choose the North American engineering consulting firms for this study. First, among the studies devoted to professional service firms engineering consulting appears to be one of the less researched. This is despite the fact that the engineering consulting industry is one of the more rapidly internationalizing professional service industries. The North American engineering consulting firms in particular have become increasingly important and influential in the global economy, especially in the developing world. Second, these firms have been actively pursuing international projects in the past decade as the demand for their service has increased significantly in various parts of the world, especially Asia, Latin America, and the Middle East. Simultaneously, the growth in demand has been rather sluggish at home. Since the entry mode decision is central to this research, recent internationalization would ensure more accurate recall on the part of managers about issues relating to entry mode decisions.

To recapitulate, this research provides an understanding of the mode of entry decisions of engineering consulting firms, a professional service industry. The study focuses on the mode of entry decisions of North American engineering consulting firms entering overseas markets.

The next chapter presents the starting conceptual framework for the study. First, a detailed review of the entry mode literature is provided followed by a discussion on the gaps in entry mode research in the context of professional service firms. An identification of the gaps provides direction and a starting point for building a conceptual framework for the study.

CHAPTER 2

BUILDING A CONCEPTUAL FRAMEWORK

Literature Review

In this section, a thorough review and critique of the literature is presented. It serves three purposes. First, it traces the evolution of research in multinational activities of firms from the 1960s, focusing on their choice of mode of entry decisions to enter overseas markets. Second, it identifies the different streams of thought that have emerged in the literature to explain why firms choose a certain mode to transfer knowledge, production, and entrepreneurial skills to a particular international market. Third, it reinforces the lack of research in entry mode decisions of professional service firms. It helps better articulate the gaps in the literature and sets the stage for building a conceptual framework for this study.

Research until the late 1970s focused primarily on providing a rationale for the ‘emergence’ of a multinational enterprise (MNE). It did not address the question as to why a certain route or mode is adopted to operate in a particular country. Research interest in this issue, however, has steadily increased since the 1980s. It is somewhat difficult to clearly separate the entry mode literature from the literature on multinational activity in general. The first part of the literature review briefly outlines the theoretical and empirical approaches to explaining FDI. This is followed by a more extensive discussion on the approaches taken by researchers to explain the choice of mode of entry of firms entering overseas markets.

Prior to 1960, FDI was treated as a kind of international capital movement subject to interest rate differentials. The neoclassical financial theory of portfolio flows posited that assuming a frictionless world of perfect competition, with no transaction costs, capital moves in response to changes in interest rate differentials. Hence, the focus was on where investment would take place rather than on understanding the reasons for setting up a multinational enterprise. Clearly, no separate theory of foreign direct investment existed at the time. The 1960s saw two approaches to international production emerge: the 'why' approach and the 'where' approach discussed in the following paragraphs.

The 1960s: The why and where of FDI

Stephen Hymer (1960) made a path breaking contribution by breaking out of the mold of neo-classical trade and financial theory and focusing attention on the MNE as an institution for international production, rather than international exchange. An important shortcoming of interest rate theory is that it does not explain 'control'. If interest rates are higher abroad than at home, an investor will do well to lend money abroad, but there is no logical necessity for him to control the enterprise he lends to (Hymer, 1976). Hymer articulated the process of FDI as an international extension of Industrial Organization theory. He identified two major reasons that cause a firm to control an enterprise in a foreign country. First, market imperfections such as a monopoly or oligopoly in the international market may motivate firms to collude in order to increase profitability. One form of collusion is for a firm to control enterprises overseas. Second, there are imperfections in the market because firms are unequal in their abilities or skills to operate in a particular industry. Hence, a firm possessing some form of monopolistic competitive advantage over other firms in the industry may find it profitable to exploit this ownership advantage in another country as well. It also has the option to rent or sell its skill rather than undertake FDI. The method it chooses is related to the degree of imperfection in the market for the skill, and the benefit of controlling the use of that skill or ability.

In summary, Hymer proposed structural market imperfections as an explanation for FDI. However, his industrial organization approach to direct investment does not explain why firms choose to exploit their comparative advantage in a foreign market through investment rather than exporting or licensing (Aliber, 1971). Further, a firm going for FDI in a particular country has the option to choose alternative modes such as establishing wholly owned subsidiaries, joint ventures and other kinds of alliances. The IO approach to explaining FDI, however, stops short of exploring the degree of control decision of a firm once it decides to go for direct investment overseas. In other words, the mode of entry decision of firms into international markets, involving a choice between exporting, licensing, setting up wholly owned subsidiaries, joint ventures etc. is ignored in Hymer's analysis of multinational activity. Dunning (1979) refers to the approach to international production, based on industrial organization theory, as the *'Why' or 'how it is possible' approach*.

The industrial organization approach also fails to address the location question, as to *'where'* the ownership advantage is exploited. The 'where' approach to overseas investment based on location theory emerged in the 1960s. The central question it asks is why firms produce in a particular country rather than in another. Between 1953 and 1970, there were a number of case studies done, most of which involved extracting influences on the location decision from field study data (e.g., Dunning, 1958). Later studies seek statistical explanations of the distribution of FDI among countries. Swedenborg (1979) developed this approach and Nankani (1979) investigated foreign investments of leading industrial countries in less developed countries. Nankani (1979) finds that both tariffs and non-tariff barriers to imports seem to promote foreign investment in the less developed countries. Dunning (1981) shows how gross inflows and outflows of foreign investment per capita vary among countries with income per capita.

There is also some research on the effect of host country characteristics on location decisions. Studies have identified market size, growth, tariff barriers, input costs, geographic proximity, legal, political, and economic conditions as determinants of FDI location patterns (e.g., Kobrin 1979). Openness to foreign investment in the host country (Lecraw, 1984; Li and Guisinger, 1992) and good economic infrastructures (Wheeler and Mody, 1992) increase FDI in these countries. On the other hand, a difficult language and a remote culture decrease it. Risk factors and political instability decrease it in some studies (Lecraw, 1984) but not in others (Wheeler & Mody, 1992). Some studies investigate the effect of experience on the choice of location for foreign investments. For example, Davidson (1980) reviews the role of host country characteristics and corporate experience. He finds that prior experience in a host country is found to increase the firm's priority for projects in that country relative to other investment options. Caves (1996) in a comprehensive survey of the multinational literature observes that empirical research on location choices for foreign investments is not particularly rich.

The 'why' and the 'where' approaches to explaining international production evolved independently of each other and, therefore, are partial explanations of FDI. Moreover, the choice of mode of entry decision of firms going overseas is clearly neglected by research in the 1960s. Horst (1972) was one of the first studies to recognize that exporting and production by a subsidiary are 'alternative' means for a firm to exploit its competitive advantage abroad. The study explored the empirical relationship between U.S. exports and subsidiary sales to Canada, and concluded that tariffs imposed by the foreign country encourage U.S. firms to substitute subsidiary production for exporting. The problem of choosing between different options or modes of servicing a foreign market was taken up more systematically by Hirsch (1976), who proposed a formal model identifying the conditions under which a firm might exploit its ownership advantages through exports or FDI. This has been further pursued by Lall (1980), and Giddy and Rugman (1979), who have addressed the choice between FDI and licensing and between exports and licensing.

The 1970s & 1980s: The multinational enterprise

In the 1970s and 80s, research in multinational (MNE) enterprises focused on two theoretical approaches. First, the industrial organization approach was further refined. Second, and the most significant was the emergence of the transaction costs perspective as an explanatory framework for the existence of MNEs and for entry mode decisions.

Industrial Organization Approach. The industrial organization approach was further refined and extended by theorists such as Caves (1971, 1974) and Johnson (1970). They focused on identifying and evaluating the various kinds of ownership advantages a firm going overseas may possess. Some of the sources of comparative advantage identified are, access to superior technology (Johnson, 1970), better capabilities for product differentiation (Caves, 1971), entrepreneurial and managerial capacity (McManus, 1972; Wolf, 1977), firm size, and multinational experience (Caves & Mehra, 1986). Many empirical studies confirm a positive correlation between intangible assets measured by R&D and advertising intensities and the propensity to go for FDI (Pugel, 1985; Kogut & Chang, 1991). There is substantial empirical evidence for the use of higher control modes of entry with higher levels of product differentiation (Stopford & Wells, 1972; Caves, 1982; Coughlan & Flaherty, 1983; Coughlan, 1985). Several empirical studies have also indicated that firm size is expected to be positively correlated with its propensity to enter foreign markets in general, and to choose sole and joint venture modes in particular (Buckley & Casson, 1976; Caves & Mehra, 1986; Terpstra & Yu, 1988; Kimura, 1989). A firm's level of multinational experience, which is another kind of monopoly power, has also been shown to influence entry modes. Firms with little experience in overseas markets are likely to choose low control modes such as licensing or be a minority partner in a joint venture (Caves & Mehra, 1986; Gatignon & Anderson, 1988; Terpstra & Yu, 1988).

Transaction Costs Theory. A major new theoretical stream emerged providing a different perspective on international production. It shifted focus from the act of foreign direct investment to the institution making the investment. This is an extension to the theory of the firm, as originally developed by Coase (1937) and expanded further by Williamson (1975) and others (e.g., Mcmanus 1972; Buckley & Casson 1976; Magee (1977); Rugman 1981, 1982; Teece 1981; Hennart 1982; Hill and Kim 1988). Given the important role of this perspective in the FDI and modes of entry literature, the basic tenets of the theory are explained in detail below.

Transactions are exchanges of goods or services between economic actors, which can occur either at arms-length on the market between an organization and external actors or inside an organization between individuals or departments. Classical market contracting is at one end of the continuum, a hierarchical organization at the other end, and the mixed modes of the firm and market in-between. Williamson (1975) developed the markets and hierarchies approach to compare the market mode with alternative organizational modes in terms of their relative efficiency. He suggests that the relative efficiency of various organizational structures can be assessed in terms of transaction costs. Transaction costs are the costs of recovering the relevant price, discovering who one wishes to deal with, negotiating, drafting, and monitoring the terms of the contract (Williamson, 1975). These costs associated with various organizing alternatives or governance structures are critical in determining the choice of transacting modes. From a transaction costs perspective, transferring resources overseas by internalizing or direct investing rather than on the market by exports or licensing is a response to market failure caused by transaction costs.

Williamson (1975) enumerates the factors that create transaction costs and cause market failure. They arise from two basic assumptions about human nature, i.e., bounded rationality and opportunism and three principle dimensions of transactions, namely, uncertainty, asset specificity, and frequency. Bounded rationality refers to the limited competence of human beings to process information. Given bounded rationality, the extent to which uncertain future events can be contractually specified and costed in when contracting on the market is limited. It is impossible and very costly to write, execute, and enforce complete, fully contingent contracts. Given the incomplete contracts, opportunistic parties may renege on the contract by taking advantage of the unspecified and unenforceable elements of the contract.

Opportunism, which takes the form of distorted or incomplete disclosure of information with an intention to mislead the other party, further compounds the problem of uncertainty. The risk of opportunism arises when one of the transacting parties makes asset-specific investments. The opportunity costs of asset specific investments, which are undertaken in support of particular transactions, are much lower than the best alternative use should the original transaction be terminated. In such circumstances, the identity of the parties and the continuity of their relationship become crucial. Hence, in situations of high uncertainty and asset specificity, the buyer of goods and services needs to guard against the possibility of opportunistic behavior by the seller.

One contractual and organizational safeguard is to replace the exchange on the market by internalization. In an international context, it would mean replacing exports or licensing by foreign direct investment. The concept of internalization applies not only to final product markets or intermediate products such as semi-processed materials transferred between industries, but also to intermediate products such as various types of knowledge and expertise. This is particularly relevant to the growth of MNEs in the post-war period, when their role in diffusing proprietary knowledge or technology internationally has increased dramatically. According to Buckley &

Casson (1976), prior to the second world war multinationality was a product of the internalization of intermediate-product markets in multistage production processes, and in the post war it is a by-product of the internalization of markets in knowledge. Proprietary knowledge or assets may take the form of a patented process or design or it might be embodied in human capital in the form of skills vested in a team of employees in the firm.

Buckley & Casson (1976) and Caves (1982, 1996) identify various transactional characteristics of knowledge which create market imperfections and hence, the need to internalize the transfer of such knowledge. Some of these characteristics are briefly discussed. First, the pricing of knowledge is difficult because it bears the characteristics of a public good. If a piece of knowledge has been developed and applied at a certain location, it can be applied elsewhere at little extra cost. Therefore, intangible assets tend to be underprovided or to be priced inefficiently (Caves, 1982, 1996). Second, transactions in intangibles suffer from impactedness combined with opportunism (Caves, 1982, 1996). A seller of knowledge may describe its general nature and character but hold back some valuable detail in order to guard against the buyer getting away without paying for the knowledge. The buyer may refuse to pay as much as the seller thinks the knowledge is worth because the former suspects the latter to be exaggerating the claims. Such buyer uncertainty will lead to internalizing the transfer of knowledge overseas by setting up an MNE. Hence, the transaction costs involved in an arms-length transaction will be higher: (a) the more difficult it is for independent parties to verify the assertions of the seller regarding the transaction in question; this is more likely when there is proprietary knowledge involved which is subject to the hazards of transmission and (b) the greater is the uncertainty surrounding the transaction.

In summary, internalization theory demonstrates that the internal market of an MNE is a device which permits the organization to assign property rights in knowledge to itself, since there is no regular external market for the pricing of knowledge (Rugman, 1982). It is also important to note that the internalization theory integrates elements from international economics (transaction costs and market failure) and industrial organization (proprietary or ownership-specific advantages). Superior technology, marketing know-how, and managerial skills may constitute the proprietary knowledge which generates the monopolistic advantage and at the same time creates the need to internalize those assets due to high transaction costs involved in their transmission on the market.

The broader question of why firms internalize the transfer of resources abroad by setting up MNEs rather than doing so on the market via licensing or exports has been abundantly addressed not only theoretically but also empirically within the transaction costs framework. Some empirical studies provide transaction cost arguments for the transfer of new technologies abroad by FDI rather than licensing (e.g., Davidson & McFetridge, 1984; Mansfield, 1984). As far as exporting is concerned, it is a favored mode to protect easily appropriated process technologies (Mansfield, 1984).

Transaction costs theory and modes of entry

While there has been abundant research on why firms invest abroad, much less attention has been focused on the implications of transaction costs theory for the choice of mode of entry between wholly owned subsidiaries, green-field investments, joint ventures etc. Hennart (1988) presents a transaction costs theory of equity joint ventures and an explanation for the choice between acquisition and greenfield investment on the one hand and joint ventures on the other. Hennart (1991) examines the choice of mode of entry decisions of Japanese firms into the U.S. in a transaction costs framework. The analysis is confined to the choice between wholly owned subsidiaries and equity joint ventures. As predicted by transaction costs theory, joint ventures will be chosen when parents need complementary intermediate inputs whose purchase on the market would entail high transaction costs, and which would be costly to obtain through replication (greenfield investment) or full acquisition. On the other hand, parents will insist on wholly owned subsidiaries when they possess the full complement of resources, especially if these resources are tacit knowledge and goodwill. Hennart & Park (1993) in a large sample empirical study extend transaction costs theory to explain the choice of mode of entry of Japanese firms into the U.S. Their analysis is confined to the greenfield investment versus acquisition decision. Their results suggest that the more research intensive among the Japanese MNEs, as measured by their R&D expenditures, enter the U.S. through greenfield investments rather than acquisitions, presumably because it is the most efficient way to transfer their technological advantage to the U.S. Interestingly, Hennart (1991) had found R&D expenditures non-significant in the choice of mode decision between joint ventures and wholly owned subsidiaries.

Anderson & Gatignon (1986) and Gatignon & Anderson (1988) make a very significant contribution to the theoretical and empirical research on the choice of mode of entry. They use transaction costs theory as a unified framework for their review of the literature existing until then on the proprietary nature of products and processes, external uncertainty, free riding potential, company experience, a country's socio-cultural distance, and scale of operations. That is, they develop a theory by systematically interrelating the existing literature into testable propositions within a transaction costs framework (Anderson & Gatignon, 1986). In particular, the theory includes interactions between the above mentioned determinants of entry modes. In the empirical study based on this theoretical framework, the researchers use multiple logit analysis to investigate the circumstances in which a particular entry mode is the most efficient choice in the long run (Gatignon & Anderson, 1988). The study is comprehensive not only in the sense of integrating different factors impacting the choice of mode of entry in a unified framework, but also in terms of the range of various modes of entry included in the analysis. Seventeen different entry modes are clustered according to the degree of control the mode provides the entrant. The empirical study includes four major organizational forms or modes of entry arrived at from the clustering: wholly owned subsidiaries; partnerships in which the MNE held the dominant share of equity; balanced (roughly equal) partnerships; and partnerships in which the MNE was a minority shareholder.

Integrating key theoretical strands

The above discussion spanning the 1960s to the 1980s clearly shows that the theory of the multinational enterprise has developed along three paths. These denote how they are able to successfully compete with domestic firms (ownership advantages), why firms produce abroad (internalization advantages), and where MNEs of a particular nationality produce (locational advantages). In response to these partial explanations of FDI, Dunning (1977, 1979, 1981) proposes an eclectic framework integrating the above mentioned perspectives from the areas of international trade, industrial organization, and market imperfections respectively. Dunning (1980) summarizes that the propensity of a firm to engage in FDI rests on three determinants: first, the extent to which it possesses assets which its competitors do not possess (ownership-specific advantage); second, whether it is in its interest to sell or lease these assets to other firms, or internalize them itself; and third how far it is profitable to exploit these assets in conjunction with the indigenous resources of foreign countries rather than those of the home country.

Several empirical studies are based on this eclectic theory. Dunning (1980) applies it to explain the industrial pattern and geographical distribution of the sales of U.S. affiliates in fourteen manufacturing industries in seven different countries. In general, Dunning's eclectic framework is useful for explaining why firms go in for FDI but it does not directly address the issue of choice of mode of entry between different modes such as greenfield investments, acquisitions, joint ventures etc. However, there are some empirical studies which indirectly apply the Dunning framework to explain the choice of mode of entry decision of firms.

For example, Davidson and McFetridge (1985) indirectly apply the Dunning framework to explain the entry choice between licensing and sole venture in that they include the location advantages of the market, one of the important elements of the framework. The results support the expectations as regards geographic proximity and certain demographic characteristics on the probability of a sole venture. Also, the more extensive the foreign exchange controls in the host country, the greater the probability of internal transfer. Agarwal and Ramaswami (1992) test the impact of the interrelationships between the three key factors comprising the eclectic model on the choice of mode of entry decision of U.S. equipment leasing firms entering U.K., Japan, and Brazil. They analyze the choice between five alternative modes, namely, no involvement, exporting, licensing, joint venture, and sole venture. The study largely supports the role of ownership, internalization, and location advantages as hypothesized in the Dunning (1977, 1980, 1988) framework. For example, larger and more multinational firms have a greater tendency to enter foreign markets and are likely to prefer a sole venture mode to a joint venture mode. An unexpected result that does not support the framework is with respect to the effect of product differentiation. Contrary to the hypothesis, it is found that firms that have a high ability to develop differentiated products prefer non-investment modes to investment modes, such as sole ventures and joint ventures. Regarding location advantages, the study suggests that firms prefer sole ventures in markets perceived to have higher market potential.

According to Rugman (1982), internalization theory can be reconciled with the eclectic model by simply combining Dunning's first two elements (ownership-specific advantage and internalization) as a firm specific advantage on the ground that the ownership advantage (where there is a risk of dissipation) has to be internalized in order to be effective (to prevent dissipation). As far as the location advantage is concerned, it is a second determinant of the FDI decision to be decided simultaneously with the firm-specific advantage (Rugman, 1986). In other words, according to

Rugman (1986) there is no substantial difference between eclectic theory developed by Dunning and internalization theory.

Integrating economic and non-economic factors

Clearly, internalization theory seems to have emerged as a core paradigm explaining the choice of mode of entry decision. It is also apparent that the *economic rationale* for entry mode decisions dominates the literature. More recent studies, however, shed light on *non-economic explanations* for this decision. They identify environmental variables influencing the mode of entry of firms. Root (1987) identifies four types of country risk – political risk, ownership/control risk (e.g., expropriation), operations risk (e.g., price control, local content requirements), and transfer risk (e.g., currency inconvertibility risk). Several studies have supported the view that some of these risks can be substantially reduced by limiting ownership in a foreign venture (Bradley, 1977; Kobrin, 1983; Vernon, 1983). Bradley (1977) finds that joint ventures with local partners experience relatively lower rates of expropriation compared to wholly owned subsidiaries.

Much research has been done on the impact of socio-cultural distance between the home and host countries on the choice of mode of entry. Some studies propose that not knowing or agreeing with the values and operating methods of the host country, can cause executives to refrain from involvement that accompanies ownership (Root, 1987; Davidson, 1980). Kogut and Singh (1988) show empirical support for the hypothesis that the greater the cultural distance between the investing country and the country of entry, the more likely a firm will choose a joint venture or a wholly owned greenfield over an acquisition. The hypothesis was tested controlling for firm level (diversification, size, country and multinational experience) and industry level variables (industry R&D and advertising expenditures).

The late 1980s and early 90s saw growing interest among researchers to do more integrative studies, integrating the different economic and non-economic entry mode explanations which are dealt with in the literature in a rather piecemeal fashion. Davidson & McFetridge (1984) integrate two approaches in the analysis of the choice of international technology transfer mechanism. One, the transaction costs approach posits that international transfer of knowledge or technology occurs within an MNE because of inefficiencies implicit in arms-length market mechanisms. It focuses on how inefficiencies in international transfers of technology affect transfer patterns for various types of technologies. The second approach to analyzing technology transfer overseas has been to examine the impact of receiving country characteristics on FDI levels and the choice between direct investment and licensing. Thus, the study is integrative in the sense that it examines the joint impact of technology, receiving country characteristics, and parent company characteristics (Davies, 1977; Contractor, 1984).

Kogut (1988) suggests two alternatives to the transaction costs minimizing perspective to explain entry by joint ventures. These explanations stem from theories on how strategic behavior influences the competitive positioning of the firm and the organizational knowledge or learning perspective. Transfer by an arms length arrangement may be ruled out in favor of other modes, not because of market failure or transaction costs, but because the very knowledge being transferred is organizationally embedded; the explanatory factors are organizational and cognitive rather than derivatives of opportunism (Kogut, 1988). A market transaction needs to be replaced due to the necessity of replicating experiential knowledge, which is not well understood. This is the organizational knowledge or learning perspective. Kogut (1988) however, explores only joint ventures as vehicles by which organizational knowledge is exchanged and imitated rather than comparing across a wide range of modes.

Gomes-Casseres (1989) also develop a comprehensive model by incorporating three major factors identified in the literature to explain the choice between a wholly owned foreign subsidiary and an equity joint venture with a local partner. First, differences in capabilities of the MNE and the local firm motivate the need for cooperation between them. Some of the capabilities identified in previous literature and incorporated in Gomes-Casseres (1989) are geographic experience, industry experience, privileged access to markets or inputs, marketing skills, and mastery of key technologies. Second, the transaction costs of cooperating through contractual means (Buckley & Casson 1988; Hennart 1982, 1988; Teece, 1981). Third, organizational costs of equity joint ventures stemming from shirking by partners and increased management costs due to conflict of interests between the partners. The study concludes that transaction cost arguments while useful for understanding the organization of foreign subsidiaries, in addition to the rationale for FDI, are not sufficient on their own to explain MNE behavior. Strategic benefits of cooperation between firms and the costs of managing joint ventures are important determinants of the choice of organizational structure of foreign subsidiaries.

A unified framework

Hill, Hwang, and Kim (1990) propose a unified framework for explaining the choice of mode of entry into overseas markets. Different explanations of the factors that influence the MNE's choice of entry mode are reviewed and integrated within the framework of an eclectic theory. The researchers draw attention to two major issues. First, an entry mode decision is not made in isolation but depends on the strategic relationship the firm envisages between operations in different countries. Second, different factors often suggest different modes, hence, it is important to determine how the interactions between the different variables influence an MNE's choice of entry mode. Most studies tend to treat the mode of entry decision as an isolated event and also test the effect of various factors on the decision without taking account of the interactions and trade-offs between these variables. The eclectic framework synthesizes the environmental, transaction cost, and global strategic variables for explaining the choice of mode of entry decision. This conceptual framework can be used to explore the impact of interactions between different factors on the mode of entry decision and also allow each decision to be considered as part of a bigger strategic plan.

Kim and Hwang (1992) empirically test the validity of the Hill et al. (1990) framework by examining the *simultaneous* impact of the identified relevant entry mode variables on the ultimate entry mode decision. One of the main contentions of the Hill et al. framework is that beyond the transaction specific and environmental factors, global strategic considerations are important to the choice of entry mode decisions. The Kim and Hwang (1992) study examines the role of three global strategic aspects, global concentration, global synergies, and global strategic motivations. All three global strategic variables were found to have a significant impact on the entry mode decisions. As hypothesized, firms that ranked the global industry as highly concentrated appeared to be more likely to choose a wholly owned subsidiary over licensing. The higher the global synergies and global strategic motivations were perceived as important the greater was the tendency to avoid licensing but prefer either wholly owned subsidiaries or joint ventures. The two transaction specific variables, value of firm specific know-how and the tacit nature of know-how, yielded mixed results. The value of firm specific know-how was not found to affect a firm's entry mode decision and the degree of tacitness was positively related to the likelihood of a solely owned venture or a joint venture over licensing.

It is important to note that the degree of tacitness did not discriminate between choosing a solely owned venture and a joint venture although it was hypothesized that the greater the tacit component of firm specific know-how the more a firm would prefer high control entry modes. As for the environmental variables, the study supported the hypothesis that high host country risk or location unfamiliarity indicated the avoidance of wholly owned subsidiaries or joint venturing in favor of a lower resource commitment such as licensing. Two other environmental variables, demand uncertainty and competition intensity, did not show up as significant for the entry mode decision. The study supports the Hill et al. entry mode decision framework for the most part. This study was conducted at the firm level which is a significant contribution given that the mode of entry decision is made at the firm level.

Non-availability of good data on international operations at the firm level has caused much of the empirical research on FDI in general, to focus on the level of the country or the level of the industry. At the level of the country, research focuses on what determines the amount of FDI investment in a *particular* country (e.g., Horst (1972), Davies (1977), Kogut & Zander (1988), Hennart (1991), Kogut & Chang (1991)). At the industry level, research focuses on a particular industry operating internationally (Anderson and Coughlan (1983); Agarwal & Ramaswami (1992); Chang (1994)). The mode of entry decisions are however, made at the firm level, and conclusions drawn for an industry or country do not always apply to the individual firm. This makes a firm level study valuable. Moreover, Kim & Hwang (1992) is one of the very few studies using a firms' direct responses as opposed to secondary data sources (i.e., financial data bases) for investigating the mode of entry issue.

Challenging transaction costs theory

The above discussion traces the development of the theory of FDI in general and the choice of mode of entry in particular. The transactions costs explanation for the choice of mode of entry dominates the literature. But it is also evident that there has been persistent effort to integrate non-transaction costs issues with the transaction costs logic and to show that transaction costs theory is not an all-inclusive explanation for the entry mode decision. Kogut & Zander (1993) strongly criticize the internalization or transaction costs argument for the transfer of technology by a certain mode. This is definitely a path breaking study in being one of the first studies to challenge transaction costs explanations for the choice of mode of transferring knowledge overseas. They propose that the decision to transfer technology within the firm or in the market can be explained by the attributes of knowledge that constitutes the firm's competitive advantage. They empirically show that the more tacit the knowledge is, the more difficult it is to codify or teach it, and the more complex it is, the more it will tend to be transferred within the firm. Hence, the costs of transferring technology are viewed as stemming from the degree of tacitness of knowledge rather than from transaction costs arising from opportunism.

Overall, in the entire trajectory of research in the area of mode of entry, the transactions cost framework has been the core theoretical paradigm for investigating entry mode choices. However, in the past few years there has been some effort to draw attention to the non-transaction cost determinants of the entry mode decision and an attempt to integrate both the economic and non-economic factors within a framework. One thing that stands out most conspicuously in the entry mode literature is the lack of research in the services sector, especially professional business services. This is further elaborated in the following section.

Gaps in the Literature – Foundation of a Conceptual Framework

Bias in research towards the manufacturing sector

It is evident from this literature review that there has been abundant research, both theoretical and empirical, in entry mode decisions. It is also conspicuous that the manufacturing sector dominates as a site for this research, shown by the way in which studies in manufacturing firms outnumber those in the services sector. Following is a list of major studies addressing the choice of entry mode decisions in the manufacturing sector. Horst (1972, 1974), Stopford & Wells (1972), Davies (1977), Swedenborg (1979), Wilson (1980), Davidson (1980, 1982), Contractor (1984), Davidson & McFetridge (1984, 1985), Caves & Mehra (1986), Anderson & Gatignon (1986), Gatignon & Anderson (1988), Hennart (1988), Kogut & Zander (1988), Gomez-Casseres (1989), Hill, Hwang, and Kim (1990), Zejan (1990), Hennart (1991), Kogut & Chang (1991), Kim & Hwang (1992), Kogut & Zander (1993), Hennart & Park (1993), and Chang (1994) are some of the major studies since the 1970s, addressing the choice of mode of entry decision in the manufacturing sector. On the other hand, most studies on the overseas entry of service firms (e.g., Boddewyn et al., 1986; Sharma and Johanson, 1987; Terpstra and Yu, 1988) do not directly address the question of choice of mode of entry into overseas markets. Studies which come closest to investigating entry mode decisions are Weinstein (1974, 1977), Erramilli & Rao (1990), Erramilli (1992), Erramilli & Rao (1993), and Erramilli (1996). None of these examine PSFs such as accounting, law, engineering consulting, and management consulting exclusively. This clearly shows that existing knowledge and conceptual development are based in manufacturing. Although the few studies on entry modes of service firms make a valuable contribution to theory development in the area of international market entry, they provide somewhat limited insights on the implications of the *different nature* of service firms for their entry mode decisions. This is discussed in detail below.

Shortcomings in entry mode studies based in service firms

The handful of studies which do explore the choice of mode of entry decision for service firms do not adequately capture the complex nature of business of service firms and its implications for the choice of mode of overseas entry decisions. More importantly, none of these studies focus specifically on professional service industries. In fact, they have examined entry mode choices of a diverse set of services, including professional services, as one sample. It is reasonable to assume, based on the past services literature, that all services share certain common characteristics. At the same time, there is also indication that there are differences across services in the degree to which the characteristics are present and that every service involves its own idiosyncratic set of activities or processes for reaching the final outcome. For example, professional services are on a higher end of the continuum of customization and need for interaction relative to say, mass retail type services (e.g., Schmenner, 1986). Moreover, among professional services, for instance, an auditing assignment and an engineering consulting project involve very different processes and logistics for service delivery. Therefore, examining the entry mode decisions of these heterogeneous services as one sample can camouflage many features of individual services and their consequences for the choice of mode. Key studies on the entry modes of services are discussed below to highlight the shortcomings.

Weinstein (1977) is an industry specific study that investigates motivations behind overseas investments and entry strategies used by U.S. multinational advertising agencies to effect their entry overseas. The study reveals four basic factors motivating overseas entry of these agencies: offensive opportunities, defensive reaction, client service requirements, and the driving force of senior executives. These categories were arrived at after factor analyzing responses to sixteen motivational statements administered to each of the fifteen U.S. agencies in the sample. As far as entry strategies are concerned, the study identifies two entry strategies: one, to purchase an existing agency; two, to start an agency from scratch. Purchasing an existing agency or a large system of agencies seemed to be the most popular means of overseas entry in the years before the study was conducted. Historical data on the agencies revealed that the availability of an agency to purchase, the desire to purchase knowledge of local work conditions and customs, and the payoff period associated with purchasing an agency are important considerations leading up to a purchase decision. Failure to find a suitable candidate to purchase, along with the availability of their own personnel and capital are the stated reasons for agency decisions to start an office from the start. Stopford & Wells (1972) provide the same reasoning in their analysis of manufacturing firms. Weinstein's study however, does not highlight the unique features of advertising services and their implications for the mode of entry decision.

Erramilli & Rao (1990) focus on market knowledge as the key determinant of entry mode choice. They classify the firms into client followers and market seekers, and observe that the variations among them in mode of entry choice is attributed to differences in market knowledge. They deal with the problem of heterogeneity in the services sector by classifying firms according to the feasibility of de-coupling production from consumption. Services for which separation of production and consumption is extremely difficult are categorized as soft services firms (e.g., car rentals, health care) and the rest are hard service firms (e.g., architectural firms, engineering design, software). The study confirms the hypothesis that client following entries show significantly higher mean levels of involvement in the host country than market seeking firms, which are likely to be less knowledgeable about the market, and therefore, perceive higher risk. Also, since market seekers possess lesser market knowledge they tend to be associated with entry modes that involve participation of entities external to the firms (e.g., joint ventures, agent exports).

The results of this study generally support the findings of earlier studies using the behavioral approach to international decisions of manufacturing firms (e.g., Aharoni,1966; Johanson & Vahlne, 1977). Erramilli & Rao's study, while a good attempt at exploring the mode of entry decisions of service firms, does not really highlight in depth the points of difference between manufacturing and service firms and the implications of these differences for entry mode choices. These studies do not incorporate the intangibility feature of services, the role of client provider interaction, the degree of customization involved, and the degree of participation of the customer in the service production process. The only characteristic they do incorporate is the inseparability characteristic of production and consumption of services which implies that some services must be produced where they are required. However, the inseparability dimension has been treated rather superficially and does not adequately capture the construct. Many services involve multiple stages in the process of delivering a service and the degree of inseparability is likely to vary at different stages. Engineering consulting projects are a good example of the complexities involved in trying to capture inseparability.

Also, studies such as Erramilli & Rao (1990) and Erramilli (1992) include a wide range of highly heterogeneous service industries in their sample in the interest of generalizability, but a more in-depth understanding of the nature of a particular service and its implications for the mode of entry decision is compromised in the process.

Erramilli (1992) investigates the impact of external and internal environmental factors on service firms' choice of mode of entry decisions. The empirical study based on 175 U.S. service firms drawn from a wide range of service industries, confirms the hypotheses that a service firm's propensity to integrate (i.e., set up branch offices, wholly owned subsidiaries) its international operations increases as foreign market size, unavailability of host country associates, and the firm's policy on maintaining control over foreign operations, all become more influential in its entry mode choice process. On the other hand, a service firm's ability and tendency to integrate decreases as host country restrictions on foreign ownership, the firm's aversion for environmental risk, the desire to get rapidly established in the foreign market and internal resource constraints all ascend in importance and influence. The results agree with studies which test the effect of the aforementioned variables on the entry mode choice of manufacturing firms. The study highlights one factor, related to internal personnel and capital resource constraints, that brings out the difference between service and manufacturing firms. Unlike manufacturing firms, the decision to adopt integrated modes of entry such as wholly owned subsidiaries by service firms may be unconstrained by scarcity of capital; rather human resource limitations may be more influential especially for services that are more people-intensive (Erramilli, 1992). Like the previous study (Erramilli & Rao, 1992), this study also does not explore in detail the distinguishing characteristics of services and how they impact the choice of mode and does not discriminate between different types of services.

Erramilli & Rao (1993) investigate the service firm's entry mode choice in a transaction costs framework. They argue that some peculiar characteristics of service firms necessitate modifying the traditional transaction cost framework used to study entry mode choice. They focus on two characteristics of service firms: low capital intensity and the inseparability of production and consumption. The study makes a useful contribution in striving to adapt an existing theoretical framework, derived almost entirely for mode of entry decisions in the manufacturing sector, to explain the international entry decisions of service firms. This is clearly a departure from a few other studies explaining the internationalization of the hotel industry (Dunning & McQueen, 1982), the banking industry (Gray and Gray, 1981; Cho, 1985), and the advertising industry (Terpstra & Yu, 1988), which have *directly* applied the theories of FDI developed to explain international expansion of manufacturing firms to the services sector. In this study too, Erramilli and Rao cluster together service firms drawn from a heterogeneous mix of industries. This study excludes key characteristics such as intangibility of services, the role of client-provider interaction, the degree of customization involved, reputation, and the series of activities involved in the service delivery process.

To summarize, previous studies dealing with the mode of entry decisions of service firms ignore important characteristics of services and those they include are not adequately dealt with to be able to capture their impact on the entry mode decision. The flaws in these studies highlight three key points. First, an essential prerequisite for investigating the choice of mode of entry decisions of service firms is to get a good understanding of the nature of the service itself. Second, following from the first point, methodologically an in-depth understanding of the nature of services warrants a qualitative research method. Third, it is difficult to capture the implications of characteristics idiosyncratic to a particular service for the mode of entry decision by clustering together a wide range of highly diverse services.

These three issues serve as a critical input into the building of a conceptual framework and in deciding an appropriate methodology for the research. They also support the decision to examine professional service firms separately and to focus on one industry, that is, on engineering consulting firms. The following section provides the rationale and process of building a conceptual framework for the study.

Building a Conceptual Framework

It is clear that there is a very well developed theoretical framework for mode of entry decisions in the realm of manufacturing. However, we know little about the entry mode decisions of professional service firms. We do know from the few existing studies on service firms that characteristics such as inseparability and people intensiveness that distinguish these firms from manufacturing are important for entry mode decisions. At the same time there are also examples of issues or factors that overlap. For example, host country restrictions on foreign ownership, environmental risks such as political and economic instability in the host country, availability of a suitable partner firm, and internal resource constraints of a firm, all affect entry mode choices of both manufacturing and services (e.g., Stopford and Wells, 1972; Weinsten, 1977; Erramilli, 1992). The bottom line is that there is not enough research evidence in services or, more specifically professional services, to be able to say with conviction that entry mode decisions of such firms will need a completely new theoretical framework.

It is equally uncertain if entry mode models tailored to manufacturing firms will be generalizable to professional service firms.

As was pointed out in the first chapter, there is overwhelming evidence of professional services being *different* or *unique* (e.g., Maister, 1993; Lowendahl, 1997). It has been recognized that concepts and theories devised to explain the production of goods do not necessarily apply to the production of services, and that organization design paradigms applicable to manufacturing may not fit the special problems of a service organization (e.g., Greenwood et al., 1990; Aharoni, 1993). This argument continues to be supported, as Aharoni (1999, forthcoming) argues in the context of globalization of services, "….rules and predictions based on the manufacturing experience may be very wrong when applied to professional services…".

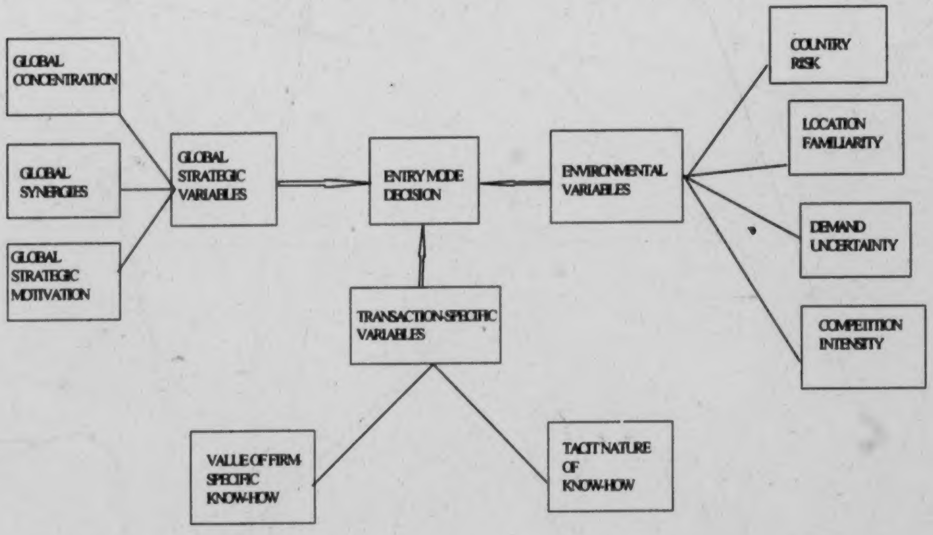
In this scenario, it made sense to utilize the theoretical knowledge that exists about entry mode decisions and then systematically modify it or change it based on my understanding of professional service firms and their entry mode choices as it develops in the course of this study. The next important decision, therefore, was to identify a reasonable starting point to build a conceptual framework for entry mode decisions of PSFs, more specifically engineering consulting firms. This is described in the next section.

Hill, Hwang, and Kim (1990) – A starting point

I identified the most comprehensive entry mode decision framework in the literature to date to use as a starting point for exploring entry mode decisions of engineering consulting firms. The eclectic framework proposed by Hill, Hwang, and Kim (1990) to investigate the choice of international entry modes seemed to be an appropriate starting point.

The Hill et al. (1990) decision framework is most complete in terms of the range of explanatory factors included. While Anderson and Gatignon (1986) also suggest a unifying framework reconciling different entry mode explanations, it is not comprehensive enough as it only includes transaction costs variables excluding other critical issues such as global strategic factors. The Hill et al. (1990) model includes three broad categories of variables identified in the literature: strategic variables, environmental variables, and transaction specific variables. The eclectic framework of entry mode choice proposed by Hill et al. (1990) is illustrated in Figure 2-1 on the next page.

Figure 2-1
Hill, Hwang, and Kim's (1990) Eclectic Framework of the Entry Mode choice

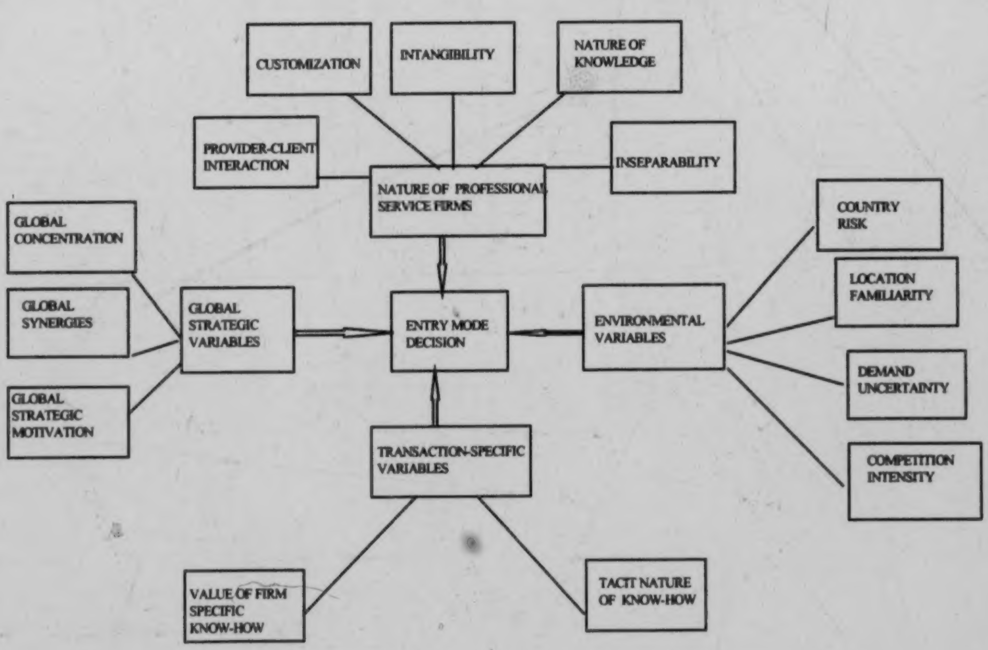

GLOBAL CONCENTRATION
GLOBAL SYNERGIES
GLOBAL STRATEGIC MOTIVATION
GLOBAL STRATEGIC VARIABLES
ENTRY MODE DECISION
ENVIRONMENTAL VARIABLES
COUNTRY RISK
LOCATION FAMILIARITY
DEMAND UNCERTAINTY
COMPETITION INTENSITY
TRANSACTION-SPECIFIC VARIABLES
VALUE OF FIRM-SPECIFIC KNOW-HOW
TACIT NATURE OF KNOW-HOW

The Hill et al. framework is a formal attempt to bring together the important theoretical strands, representing transaction costs and non-transaction cost factors, from the previous entry mode literature. Further, it adds global strategic variables along with the other two sets of variables so that each entry mode decision can be examined as a part of the entrant firm's global strategy, an issue that is ignored in past studies.

The Hill et. al. decision framework is only a starting point for building a conceptual framework because it is grounded in manufacturing firms. The first step in the direction of adapting the entry mode decision framework to professional service firms was to incorporate differentiating characteristics of PSFs drawn from the past services literature (e.g., Lovelock, 1983, Zeithaml, Parasuraman, & Berry, 1985; Maister, 1993). The modified Hill et al. framework is presented in Figure 2-2.

Figure 2-2

Modified Hill et al. (1990) entry mode decision framework


CUSTOMIZATION
INTANGIBILITY
NATURE OF KNOWLEDGE
PROVIDER-CLIENT INTERACTION
INSEPARABILITY
NATURE OF PROFESSIONAL SERVICE FIRMS
GLOBAL CONCENTRATION
GLOBAL SYNERGIES
GLOBAL STRATEGIC MOTIVATION
GLOBAL STRATEGIC VARIABLES
ENTRY MODE DECISION
ENVIRONMENTAL VARIABLES
COUNTRY RISK
LOCATION FAMILIARITY
DEMAND UNCERTAINTY
COMPETITION INTENSITY
TRANSACTION-SPECIFIC VARIABLES
VALUE OF FIRM SPECIFIC KNOW-HOW
TACIT NATURE OF KNOW-HOW

The modified Hill et al. (1990) framework comprises four independent constructs, global strategic factors, environmental factors, transaction specific factors, and professional service firm factors. The entry mode decision construct and the four independent constructs are described in the next section.

Hill et al. (1990): Dependent and independent variables

Mode of Entry Decision Construct

Entry modes are alternative routes or means by which an organization can expand its operations overseas. Hill et al. (1990) conceptualize the entry mode decision as a choice between licensing, joint venturing, and wholly owned subsidiaries. The classification is based on different levels of control and resource commitments. The level of control implies the degree of authority over operational and strategic decision-making (Hill et al., 1990). Resource commitment involves committing assets that cannot be redeployed to alternative uses without cost. Most of the international business literature conceptualizes modes of entry in terms of different levels of control (Caves, 1982; Davidson, 1982; Root, 1987; Anderson and Gatignon, 1988, Hill et al., 1990). The degree of control has generally been interpreted by researchers in terms of the extent of equity interests. Licensing involves the lowest degree of control and wholly owned subsidiaries involve the highest. Similarly, the level of resource commitment is the lowest for licensing and the highest for wholly owned subsidiaries (Hill et al.,1990).

Independent Variable: Global strategic variables, Environmental variables, Transaction-specific variables, Nature of professional service variables.

Following are the descriptions of the independent variables in the Hill et al. (1990) entry mode decision framework. They also take account of the findings of Kim & Hwang (1992), which is an empirical test of the Hill et al. (1990) framework. *Global strategic variables* include global concentration, global synergies, and global strategic motivations. Global concentration arises when there are limited number of players in the global market, creating high levels of competitive interdependence among the players. Actions taken by the multinational firm in one national market may have repercussions for other national markets. Kim and Hwang (1992) hypothesize that a multinational firm with higher global concentration will prefer a higher control mode. As predicted, the results show that firms that ranked global concentration highly chose wholly owned subsidiaries over licensing. *It was difficult to predict at this point the possible repercussions of global concentration for engineering consulting firms. It was important to first understand the nature of competition in this industry.*

Global synergies or global economies of scale, especially with respect to inputs such as R&D, manufacturing, and brand name may also affect the choice of mode of entry. Kim & Hwang (1992) hypothesize that when the extent of potential global synergies between the entrant and other sister business units is great the firm will demand a high control entry mode. The study finds that global synergies significantly affect entry mode choices. Firms that ranked global synergies highly avoided licensing in favor of higher control modes such as wholly owned subsidiaries or joint ventures. It is important to note that the firms appear to be indifferent between wholly owned and joint venture modes even though they involve different levels of control. *One would expect engineering consulting firms to reap economies from the use of people, the core asset of a professional service firm, in the process of service creation and delivery. This is likely to impact the choice of mode of entry decisions of these firms.*

Global strategic motivations refer to strategic objectives of entering certain markets, especially of global rivals, which go beyond a simple cost-benefit analysis of that particular entry decision. Kim & Hwang (1992) define global strategic motivations as strategic aims set at the corporate level for the purpose of corporate efficiency maximization. As hypothesized, the study suggests that global strategic motivations do have a significant impact on the choice of mode. Firms ranking global strategic motivations high also avoid licensing and opt for higher control modes. But the decision seems to be indifferent between a wholly owned subsidiary and a joint venture. *One could expect engineering consulting firms to set up a wholly owned or joint venture office as a strategic outpost in a particular country or region to establish some visibility that will be advantageous in the long run.*

Environmental variables include demand uncertainty, competition intensity, country risk, and location unfamiliarity. Contrary to their hypothesis, Kim and Hwang (1992) find demand uncertainty and competitive conditions do not significantly affect entry mode choice. The study does, however, support the hypothesis that high country risk and location unfamiliarity will cause the firms to avoid wholly owned or joint venture modes in favor of lower resource modes such as licensing. Several studies find that host country risks such as political instability, price controls, local content requirements, currency convertibility risk etc. have significant implications for the mode of entry decision (e.g., Kobrin, 1983; Stopford & Wells, 1972; Bradley, 1977; Root, 1987; Gatignon & Anderson, 1988). Higher level of host country risks dissuade firms from setting up higher resource modes such as wholly owned subsidiaries. Location familiarity which looks at the distance between the home and the host country in terms of culture, economic systems, and business practices has been found in previous studies to impact the choice of mode of entry of firms going overseas (e.g., Stopford & Wells, 1972; Davidson, 1980; Davidson & McFetridge, 1985; Gatignon & Anderson, 1988; Kogut & Singh, 1988; Erramilli & Rao, 1993). Demand uncertainty and intensity of competition affect the propensity of entering firms to invest resources and hence the choice of mode (Harrigan, 1983, 1985; Kim & Hwang, 1992). The impact of these environmental variables has been examined, predominantly, for the mode of entry decisions of manufacturing firms. Erramilli (1992) and Erramilli & Rao (1993) empirically test the effect of certain types of country risk and of cultural distance for service firms and find them relevant for the mode of entry decision. *High host country risk and a high degree of demand uncertainty are likely to impact the entry mode decisions of engineering consulting firms in dissuading modes requiring greater resources. A greater cultural distance will likely point to a joint venture arrangement.*

Transaction-specific variables included in the Hill et al. (1990) framework relate to the value of firm-specific know –how and the nature of know-how. The value of firm-specific know-how pertains to the risk of dissemination of know-how. Transaction costs theory or internationalization theory suggests that the firm-specific advantages the MNE enjoys relative to the host country enterprises, generate quasi-rents which may cause licensees or partners in other contractual modes to disseminate the know-how (e.g., Dunning, 1981; Hennart, 1982; Hill & Kim, 1988; Teece, 1977, 1981). The second element of the transaction-specific variable in the Hill et al. framework is the tacit nature of know-how. Tacit know-how cannot be codified which makes it difficult for any party to know ex ante what the cost and value of the transfer will be. The parties may behave opportunistically to exploit the situation to their own advantage (Hennart, 1988). Kim and Hwang (1992) in an empirical test of the Hill et al. model find mixed support for the hypotheses. The value of firm specific know-how was not found to affect the firms' entry mode decisions. However, the tacit nature of know-how did affect the choice of entry mode in that the higher the tacit component the greater the likelihood of firms choosing a wholly owned or joint venture mode over licensing. Again, the results do not indicate any discrimination between a higher control wholly owned subsidiary and a relatively lower control joint venture mode. *It is likely that a greater value attached to the personalized element in professional services and also, there being a need for a higher level of customization will reduce concern for dissemination of knowledge making it a relatively unimportant factor in entry mode decisions.*

Nature of professional service firms variables include the following distinguishing features of professional service firms: intangibility of service, degree of customization, need for service provider-client interaction, reputation, inseparability, six, people as the dominant asset, and the nature of knowledge. This component modifies the Hill et al. framework. The description provided below of each of these PSF constructs is at a very generic level.

Intangibility One of the core elements of a professional service is its intangibility, which implies that a service is perceived in a subjective manner and it is frequently difficult to evaluate or define quality. Professional services such as accounting, engineering consulting, and law generate knowledge or ideas and the client purchases these ideas. These may be embodied in an audit report or an engineering design, which is the tangible element. Thus, there is a tangible dimension to these services but the intangible components dominate. Shostack (1977) describes this very succinctly – "….intangibles may come with tangible trappings, but no amount of money can buy physical ownership of such intangibles as experience, time or process…". An important implication of the intangibility characteristic is that it makes it difficult for the client to evaluate the service. *Uncertainty in the minds of the client about the final outcome is likely to call for more client-consultant interaction and in turn impact the mode by which an engineering consulting firm enters a country.*

Client-consultant interaction The role of client – service provider interactions is critical in influencing the customer's perception of the quality of the service. Gronroos (1990) points out that a customer's perception of the quality of the service is not just influenced by the technical quality of the final outcome received but also by *how* he or she receives the service, that is, the functional or process related dimension. Further, the need for client-consultant interaction becomes almost necessary to deal with the uncertainty arising from intangibility and to produce a customized idiosyncratic outcome for each client. In an international context, the process of interaction becomes complex as the need for the PSF to react quickly to a client's needs can be hampered by cultural differences and problems in communication (Fladmoe-Lindquist, 1993). It is crucial, therefore, to make a choice of organizational form in the host country that will facilitate the process of interaction with the client. *It is likely that the need to overcome cultural barriers in communication in the host* *country will require engineering consulting firms to choose partnerships over wholly owned ventures.*

Degree of Customization Professional service firms are characterized by a high degree of customization. They focus mostly on exploring and solving a specific problem for a client, that is, they have to offer custom made solutions (Gummesson, 1978). Due to a high element of personal judgement and innovativeness, the degree of uncertainty experienced by the client as well the service provider about the final outcome increases (Lovelock, 1988). In these conditions, it is impossible to negotiate all aspects of a contract ex ante, hence requiring continuous bargaining and interaction between the provider and the client. A highly customized output of PSFs may require a large part of the production and delivery process to take place on site as defined by the client (Lowendahl, 1993). *One could expect the degree of customization required in the engineering consulting service to have some implications for the means of entering an overseas market.*

Inseparability The inseparability characteristic of services implies that the production and consumption of services often occur simultaneously so that services must be produced where they are required. This is likely to impact the mode of entry when a service is required to be delivered to clients across borders. Judging the separability of production and consumption requires recognition of the fact that there is something more than the core service itself that is delivered. Services are activities or a series of activities rather than things (Gronroos, 1990). In other words, there is a whole 'package' being delivered to the client. For example, engineering consulting could be characterized as a 'separable' service if it is simply viewed as entailing delivery of a design embodied in blueprints. Engineering consulting business entails more than just delivering basic technical knowledge encapsulated in blueprints. It involves several distinct stages before anything tangible emerges and each stage demands its own level of inseparability. In fact, the process of service delivery most often does not end with the production of a design as the supervision of construction or construction management is very critical for the successful delivery of an engineering service. *One could expect the range of services that an engineering consulting firm performs to have implications for its entry mode decisions.*

Reputation Reputation is a professional service firm's most valuable asset. It is particularly important because of the idiosyncratic nature of the service, intangibility, and the information asymmetry between the client and the service provider, all of which exacerbate the uncertainty in the minds of the clients about what they are buying. As Lowendahl (1997) describes, it becomes difficult for the client to evaluate the "credibility of the promise", which depends on the firm's reputation and the professionals the firm says it will assign to the project. The reputation of the firm and of the individual professionals in the firm is, therefore, critical. Further, because of the intangibility the client finds it difficult to isolate service quality from the "quality" of the service provider (Campbell & Verbeke, 1994). *The need to reduce uncertainty and establish quickly a reputation for reliability is likely to be critical for the choice of mode of entry of an engineering consulting firm.*

People as dominant asset Professional service firms are highly skill and knowledge intensive (Aharoni, 1993). They are characterized by heavy reliance on individuals rather than on capital or traditional concrete assets. The critical elements are in the minds of employees and in networks of customer relationships, manuals and systems for supplying services (Alvesson, 1995). People being mobile are likely to be less of a constraint in the choice of mode of entry. On the other hand, people as an asset pose challenges in that they are often not substitutable or not interchangeable (Lowendahl, 1997). This is likely to impact decisions to set up offices in other locations and thus also affect entry mode decisions of firms. Also, if people are the most important asset in PSFs, managing personnel, their training and development, and welfare are paramount. Quality control and maintaining service consistency are essential. So setting up new offices in far-flung areas can be difficult. *Engineering consulting firms also predominantly utilize people as the key resource in providing their service and accordingly, the characteristics of this core asset are likely to impact the choice of mode of entry into overseas markets.*

Knowledge Clearly, the competitive advantage of PSFs lies in the knowledge they can provide their clients and the nature of this knowledge is likely to be critical to the choice of mode of entry decision. The implications may be closely tied to people being the dominant asset because the knowledge is vested in individuals. Individually held knowledge may be further coordinated in teams and eventually into organizational level knowledge. *In the context of engineering consulting firms, at this point a better understanding of the knowledge these firms apply in providing the service was needed to predict anything about its possible implications for entry mode decisions.*

To summarize, at this point of the research, I had a conceptual framework that summarizes the key arguments and findings of the mode of entry literature and adds the PSF elements (Figure 2-2). It is important to recognize that this framework is only a starting point or a provisional framework and needs to be subjected to initial analysis to see whether the modification is appropriate. This is necessary because we know very little about modes of entry of professional service firms.

The next chapter provides an overview of the methodology for the study and presents in detail the methodology and data analysis for Phase I of the research.

CHAPTER 3

PHASE I: METHODOLOGY AND ANALYSIS

Overview of Research Design

The study applied a two-phase research design combining qualitative and quantitative approaches. The first phase involved qualitative in-depth case analyses of overseas entry mode decisions of twenty engineering consulting firms based in Canada and the US. The data was collected through semi-structured interviews. The second phase involved a quantitative study conducted in a wider sample of engineering consulting firms based in Alberta, Canada. A structured interview schedule was used and the data analyzed statistically. A research design that draws on both qualitative and quantitative data collection procedures is sometimes referred to as a mixed method or "between methods" design (Jick, 1979).

This chapter deals with the first phase of the two-phase research design including both methods and analysis. Chapter 4 and 5 are devoted to the methodology and data analysis respectively, for the second phase of the study.

This chapter is organized in three major sections. First, the objectives of this phase of the study are elucidated. Second, the methodological approach is discussed followed by a detailed description of sampling and data collection procedures. In the third and final section, the process of data analysis and the results are presented.

Phase I of Study

Objectives

The first phase of the research is the most critical step in the process of building a conceptual framework of entry mode decisions tailored to a professional services industry. To recapitulate, the Hill et al. (1990) entry mode decision framework, derived from research in the manufacturing sector, provided a provisional conceptual framework which was modified by incorporating professional service firm (PSF) characteristics drawn from the past services literature. The Hill et al. framework defines the mode of entry decision as a choice between various legal arrangements such as licensing, joint ventures, and wholly owned subsidiaries and incorporates three major determinants of the entry mode decision that include transaction specific variables, environmental variables, and global strategic variables. The PSF characteristics introduced to the framework include intangibility, reputation, need for customer-client interaction, customization, and inseparability. Introducing professional services characteristics to the starting entry mode decision framework appeared to be an appropriate initial modification to situate it in a professional services context. After the modification, however, the framework was merely a simple amalgamation of entry mode decision variables identified in the organization economics literature and professional services variables drawn from the services literature. The highly generic definitions of PSF characteristics and a conspicuous lack of past research in various aspects of globalization, including choice of entry modes, of professional services made it difficult at this point to make any meaningful conceptualization about the factors affecting entry mode decisions.

There were numerous ambiguities about the modified Hill et al. framework. First, it was difficult to tell if all the factors in the framework could be mapped, as is, on to a framework relevant to a PSF industry. Second, assuming that professional services are *different*, it was not clear *how* the PSF characteristics would impact the entry mode decision. Third, there could be other unknown factors attributable directly to the nature of activity of the PSFs. The need to arrive at a conceptual model that would comprehend the reality of professional services as closely as possible made it imperative to further explore the nature of the firms and their international operations.

Thus, the objective of the first phase of the study was to explore the nature of engineering consulting, to understand its PSF characteristics at a higher level of specificity, to identify its international modes of entry, and the factors affecting the choice of mode decision. This called for a qualitative approach consistent with an inductive model of thinking to facilitate the process of understanding and to unravel issues not identified in the past mode of entry and services literature. The Hill et al. framework along with the PSF characteristics served a good focusing and bounding function (Miles & Huberman, 1984) for further theory development or, in this case it might be more appropriate to call it theory elaboration (Strauss, 1987; Vaughan, 1992). The starting theoretical framework was not meant to be a constraint but to be used inductively so that it did not become something to test, but rather to develop and be shaped through the process of research (Creswell, 1994).

I expected three main objectives to be achieved in the first phase of the study. First, to complete the process of building a conceptual framework for the entry mode decisions of a professional service industry. Second, to help operationalize variables related to PSF characteristics such as the nature of knowledge, intangibility, customization, inseparability, and the client-service provider relationship which are very broadly defined in past literature. Third, to conceptualize the relationships between PSF characteristics and the entry mode decision. These were expected to contribute to building a comprehensive and relevant structured questionnaire for the second phase of the study. The methodological approach applied to the first phase of the study and the rationale for it are discussed in greater detail in the following section.

Methodology

The need to arrive at an entry mode decision framework that is relevant to a professional services industry called for an in-depth exploration of engineering consulting to understand the nature of business, its international modes of entry, and issues critical to the choice of mode decision. It was particularly important to understand what the different PSF characteristics really meant and to conceptualize the relationships between these characteristics and the choice of entry modes as well as how these features might shape the relationships of other variables with the entry mode decision.

In light of the nature of the issues to be addressed at this stage of the research, it made sense to use a qualitative mode of enquiry. Morse (1991) draws attention to four characteristics of a typical qualitative research problem. One, the concept is immature due to a conspicuous lack of theory and previous research; two, a notion that the available theory may be inaccurate, inappropriate, incorrect, or biased; three, there is a need to explore and describe the phenomena and to develop theory; and four, the nature of the phenomenon may not be suited to quantitative measures.

My research problem at this point fit most of these characteristics, in the sense that although I could draw on a strong theoretical framework from past research it was likely to be biased and inadequate for explaining the phenomenon at hand. Something was known about the phenomenon but not enough to house a theory (Miles &

Huberman, 1984). There was obviously a need to explore and develop the theory. The current status of research on the internationalization of PSFs, the lack of previous theorizing of relationships between various PSF issues and overseas entry mode decisions, and an inadequate understanding of the nature of engineering consulting itself clearly suggested that the research problem was not, at least at this stage, amenable to quantitative measures. Further, the mode of entry decision is a very complex decision and it made sense to access the experience of managers who actually make the decisions to get a good understanding of the complexities involved. There was a need to focus on what Miriam (1988) describes as the process, meaning, and understanding to be gained through field research involving face to face conversations with real decision makers. Accordingly, the first phase of the study applies a qualitative approach involving in-depth semi-structured interviews in North American engineering consulting firms doing work overseas.

Taking a cue from past writings on research methods, focusing on the advantages and limitations of different methods (e.g., Miles & Huberman, 1984; Merriam, 1988; Bogdan & Biklen, 1992; Creswell, 1994), the choice of one to one in-person interviews as a method of data collection seemed appropriate for the study. First, the research problem was to investigate the choice of mode of entry decision that could not be directly observed, thus, ruling out various observational methods. Second, interviews would make it possible to get historical information which was likely to have a bearing on the choices that were made with respect to the modes of entry. Third, a strong starting conceptual framework provided a general direction for data collection and interviews would allow me to exercise some control over the line of questioning without, at the same time, being overly constraining.

Sampling and data collection

The next step was to identify the parameters for data collection. Miles & Huberman (1984) suggest four parameters. One, the setting where the research will take place; two, the actors who will be observed or interviewed; three, the events that the actors will be interviewed about; and the process or the evolving nature of events undertaken by the actors within the setting. The data for this phase of the study was collected in North American engineering consulting firms.

The engineering industry in North America consists of three types of firms. One, the integrated manufacturing and engineering firm, which is essentially, an industrial corporation independently selling its know-how in the engineering markets. Second, the integrated engineering and construction company that performs both engineering and contractor activities. Third, the specialized engineering consultant firm which provides services in a range of activities such as pre-feasibility and feasibility studies, surveys, design, training, construction management etc., but operate neither in construction per se, nor in manufacturing. Almost all the Canadian firms and many US firms belong to this category (Niosi, 1995). The sample of firms for this study are drawn from the population of the third type of firms based in North America. Firms in the third category represent the service and the consulting arm of the engineering industry and thus, were most appropriate for this research.

The firms were located in Alberta, Canada, and in New York and New Jersey, U.S. The choice of location of firms was governed by three factors. First, Calgary in

Alberta and NY and NJ in the U.S. are hubs of corporate activity with a high concentration of head offices of firms as well as subsidiaries of major firms, which are headquartered elsewhere. This was confirmed after a thorough search of the Engineering consulting directories and the Engineering News Records. This combination of locations appeared to be representative of the industry in both Canada and the U.S. Second, there are a large number of firms in these locations involved in international activities. Third, it was both temporally and financially viable to conduct research in these locations.

The lists of engineering consulting firms in Alberta, New York, and New Jersey were drawn from the Directory of the Consulting Engineers of Alberta and the membership lists of the New York Association of Consulting Engineers Inc. and the Consulting Engineers Council of New Jersey. Another supplementary source for the US firms is the Engineering News Record (ENR) which published an updated list of the top 500 US design firms (international) in July, 1995. It publishes such lists from time to time, which help keep a track of any exits and entries of firms in the engineering consulting industry, and any changes in names, and addresses. Canadian Consulting Engineering (a trade journal) provides similar lists for Canadian firms. Initial phone calls were made to confirm the firm's involvement in overseas markets and to identify a senior executive actively involved in decisions related to international operations. A letter describing the research and addressing confidentiality issues was faxed to the executives before contacting them on the phone to set up a meeting. The choice of firms was dictated by the willingness of the firms to participate in the study.

The sample for the study was not a randomly selected statistical sample. The objective was to purposefully select firms in a way that would best address the research question (Creswell, 1994). While the sample was not randomly selected, an effort was made to select firms that spanned a wide range of specializations including environmental, civil, transportation, municipal, structural, electrical, mechanical, pharmaceutical, energy, petroleum & petrochemical, and geotechnical engineering. The intent was also to make the sample as diverse as possible for the range of services performed, the size of firms in terms of number of employees, and the degree of internationalization.

The number of firms to be sampled was not decided at the outset but the data was gathered until it stopped yielding any new concepts, that is, up to a point of *theoretical saturation* (Glaser & Strauss, 1967). The type of sampling done for the study is more akin to the concept of theoretical sampling, originally proposed by Glaser & Strauss (1967), where the process of data collection is controlled by emerging theory. The researcher decides which additional data are relevant to explicate and develop emerging concepts (Locke, 1996). This is not to suggest that this study technically applied the grounded theory approach to arriving at theoretical saturation, which involves multiple comparison groups to help generate as many properties of the different conceptual categories as possible (Glaser & Strauss, 1967). In this study, the data collection was confined to one substantive group but as the interviews progressed the emerging concepts as well as issues pointing towards elaboration of existing concepts were tracked continuously and shaped the questions in subsequent interviews. A total of 19 interviews were conducted at which point the *saturation* of concepts and information became apparent.

Description of sample. A majority of the firms in the final sample specialized in environmental, civil, structural, mechanical, and electrical engineering. Further, at least six of the firms were highly diversified. The range of services performed by the firms covered prefeasibility studies, feasibility studies, design, detailed engineering, and the supervision of construction. Three of the eighteen firms were also involved in the "build" or construction phase of a project. The size of the firms in terms of the total number of staff across all offices ranged from 65 to 7000 employees. It is difficult to classify firms in this industry as large, medium, or small because different ranges apply to different specializations. For example, in the structural, electrical, and mechanical engineering areas firms with staff ranging from 100 to 500 would be considered medium or large. Firms with staff exceeding 1000 were highly diversified and geographically dispersed. All the firms had different degrees of involvement in the international arena with revenues from international operations ranging from 1% to 80% of total firm revenue. The firms had been international for approximately 2 years to as long as 70 years. A majority of the firms fell in the range of 15 to 30 years of overseas work. Thus, the sample of firms for the exploratory phase of the study was quite comprehensive in terms of size, specializations, range of services performed, and the extent of international involvement in diverse countries.

Data collection procedure. A semi-structured interview schedule was prepared based on the concepts included in the conceptual framework for the study. The interview schedule used for the first phase of the study is included in Appendix A. A senior executive involved in decision making for the international operations of each firm was interviewed. A person who had been in the firm for a reasonably long period of time was preferred because entry mode decisions could only be discussed in hindsight and required sufficient historical background of the firm's internationalization.

Creswell (1994) suggests a protocol for conducting interviews, which was applied in the study. Each interview began by providing a clear description of the research and the general nature of the issues that would be discussed in the ensuing interview. Permission was asked to audio tape the discussion. The interview started with questions about the general background of the firm including a brief history of its domestic and international operations, areas of specialization and the range of services delivered, the geographical location of branch offices or subsidiaries, if any, and names of countries where the firm was operating. More specific questions were asked about the types of modes of entry the firm adopted for different countries. The interviewee was asked to describe the legal form of each mode. This was followed by questions about the general nature of work performed and the entire process of service delivery. This brought up issues such as the intangible nature of the service, the role of client-consultant interaction, customization of the service, and inseparability. These were pursued in more detail. The interviewee was then asked to focus on any one country and give the story of entry into that country. This shed light on factors involved in making the decision about the choice of country and the mode of entry. More detailed questions were asked about the role of determinants of the entry mode decision included in the conceptual framework such as the global strategic issues, country specific issues, and transaction cost issues. New factors identified by the interviewee were discussed in depth. The interviews usually lasted between an hour and one-half hours and two hours.

The process of interpretation of the data started simultaneously with the data collection. The interviews continued until it became apparent that there were no new concepts emerging or the data had reached a point of saturation. After each interview brief notes were made of issues that emerged in the course of the interview that particularly drew attention to the nature of engineering consulting, its professional service features, and its international market entry. These were reflective notes that Bogdan & Biklen (1992) describe as, "speculation, feelings, problems, ideas, hunches, impressions, and prejudices". This exercise helped keep a track of issues being consistently repeated across firms as well as those that were not. More detailed questions were asked in the subsequent interviews to get a better understanding of these issues and to clarify any ambiguity surrounding them. While the basic structure of the interview schedule remained the same, some questions were improvised in an iterative manner as the interviews progressed.

Methodological approach. The process of data collection and the detailed analysis, to be discussed later, are a partial reflection of the grounded theory approach. It was not "intended" but the way the process of enquiry evolved took on a hue of the grounded theory method. At the end of the first five interviews, detailed notes were made on the broad issues that jumped out as either completely new and not a part of the conceptual framework or as different aspects of the constructs *in* the conceptual framework. Many of these emerging issues required further clarification and elaboration, which was deliberately sought in the following interviews. Furthermore, comparing statements about the same issue across the completed interviews revealed differences across specializations, size, and the degree of internationalization of firms. Thus, throughout the interview process, while following a generally consistent line of questioning, there was a deliberate effort to seek further confirmation and clarification on the observations and conceptualizations drawn from previous interviews. It certainly drove the ongoing data collection. The process bears a resemblance to what Locke (1996) describes as the two key analytic operations proposed by Glaser & Strauss (1967). One, making constant comparison and two, theoretical sampling. Constant comparison in this study meant comparisons made after each interview with prior interviews.

It is important to note that the methodological approach for this study reflects more the Straussian perspective of grounded theory (e.g., Corbin & Strauss (1990); Strauss, 1987; Strauss & Corbin, 1990). This is apparent in two respects. First, the Straussian perspective emphasizes a greater role of theory, while Glaser (1992) continues to emphasize a "purer" induction (Hinings, 1997). In this study, there was a strong prior conceptual framework to inform the data collection and provide insight to the data. Second, an important part of the process of conceptualizing and categorizing data is *provoking* the data by asking numerous questions of it (Strauss & Corbin, 1990). Glaser (1992), on the other hand, criticizes this approach and cautions against "slipping into preconception".

Interestingly, in this study, I went into the field with a rather strong preconception grounded in past research, especially regarding the entry mode construct, which is the core of the research question. But the preconception was in fact more a facilitator than a constraint or contaminator in identifying and generating new concepts from the data. It helped me *see* things in the data that did not fit the preconception and look for *what else* might be going on. It helped in comparing and contrasting, in drawing out the differences and similarities, which was critical since one of the primary goals of the study was to explore "how professional services might be different in the context of overseas entry mode decisions". This is consistent with what Strauss and Corbin (1992) call "provoking the data" to break it down and categorize it. It certainly was in the true spirit of exploration, the main objective of this phase of the study. The process was actually instrumental in a reconceptualization of the entry mode construct, which is discussed later. A caveat borne in mind every step of the data collection and analysis was to keep an open mind. It was important to be open to possibilities and see contrary or alternative explanations for the findings (Creswell, 1994). In summary, the approach was to go into the field with an open mind and not an empty head (Fetterman, 1989) as opposed to Glaser's (1992) "the analyst should just *not know* as he approaches the data". The above discussion of my methodological approach will make more sense as I discuss the actual process of data analysis and its outcome in the following paragraphs.

Data Analysis

Although, there was an overall plan of analysis, the process of analysis evolved and was adapted as some observations and emerging concepts pointed to different ways of exploring and thinking about the data. Tesch (1990) observes that the process of data analysis is eclectic, and there is no "right way". The process of interpretation of data began at the stage of data collection itself and informed and guided each subsequent stage of data collection. The interviews were then transcribed and the transcripts formatted to fit the requirements of Nud*ist, a specialized qualitative software used for the analysis. Nud*ist is designed to manage and process qualitative data which is often in the form of unstructured conversational interviews, historical or literary documents, field notes, newspaper clippings, etc. Nud*ist enables storing and retrieving text from the documents. It has a very sophisticated indexing system that facilitates the creation of categories for thinking about the data and indexing or coding segments of the text at the index categories. In other words, the index system contains the researcher's ideas, concepts and categories. Nud*ist offers the superior advantage of an indexing system that is flexible in allowing you to change, reconfigure and continuously build the coding as the project progresses. This is a critical feature for the process of theory building or theory elaboration. In the following paragraphs the process of analysis is discussed.

ANALYSIS: STAGE 1 As mentioned earlier, the first stage of the analysis commenced simultaneously with the data collection and transcription. All the interview transcripts were then read thoroughly a couple of times to get a preliminary sense of the issues brought up by the interviewees to describe the firms' nature of work and international operations. Different sections of the interviews were highlighted and categorized under broad concepts such as types of legal modes, PSF characteristics, country specific issues, and transaction cost issues. A Nud*ist tree was created with the broad conceptual categories representing the nodes of the tree and the relevant text was posted at each node. Also, a base data node was created to carry basic information about each firm including its size, age, areas of specialization, range of engineering consulting services performed, number of years of international activity, and countries of operation. In the next round of reading the interview texts the conceptual categories were further refined and subnodes created in the index tree. In this way a hierarchy of categories emerged. For example, under the core node on PSF features subnodes representing sub-concepts such as reputation, intangibility, client-consultant interaction, customization, and inseparability were created. Similarly, under the transaction costs node, two sub-nodes were created, namely, the "nature of knowledge node" that referenced parts of the text alluding to the nature of what these firms sell and a "risk of dissemination of knowledge node" that contained all discussion on this issue. The nodes and subnodes corresponding to all the concepts developed are outlined in Appendix B.

The starting conceptual framework of the study drove the initial structure of the tree. However, given the flexibility built into the Nud*ist indexing system, it was possible to prune, reorganize and combine the different nodes in subsequent stages of analysis as the thinking about the different concepts and their relationships evolved. Concepts that were not a part of the conceptual framework of the study were identified and new index categories created accordingly. For example, the importance of "people" as the dominant asset, the role of clients' preferences, the role of contacts and relationships with clients and business partners, and the types of global economies prevalent in the industry. Each of the theoretical categories was clearly defined and stored which helped in building new categories as well as avoiding any overlaps. Further, any relationships and interactions observed between factors were documented in memos attached to each node. One of the purposes of memos is to hold preliminary theorizing about the data. For instance, the implications of firm size on international activity, the role of pre-existing relationships with clients in triggering entry into a country and so on.

The preliminary analysis revealed that the modes of entry of the firms into the host countries were rather difficult to decipher from the data. The modes of entry identified in the past literature such as green-field investments, acquisitions and joint ventures were used as the points of reference for identifying the modes in the interview data. It was anticipated that the list of modes might need to be expanded for the engineering consulting industry to include some contractual modes such as subcontractual agreements and consortiums. Although, there was evidence of the variety of different legal forms adopted by firms, what particular form constituted a firm's means or mode of entry into a specific host country was rather fuzzy. A more fine grained analysis of the data was done to identify all the issues the interviewees were alluding to when asked direct questions about the means by which they entered a particular country. A typical pattern observed in parts of the text referring to overseas entry was that the discussion revolved around "projects". This drew attention to the project-based nature of engineering consulting, a core characteristic of the industry. It was apparent from the project-based activities that these firms are continuously entering a country project by project by project. A perfect illustration of the project based nature of engineering consulting and its repercussions for international activities is a statement drawn from a letter written by the President of a large international engineering consulting firm to the staff. The firm has been doing international work for about 30 years and has offices in 40 countries spanning six continents. The statement reads:

> **"...The Singapore project is a milestone win for the company. We acknowledge and appreciate your hard work...we value and sincerely appreciate the great job you are doing, working together to achieve our company's global vision, project by project...."**

It was necessary both from a theoretical and practical standpoint to examine how the mode of entry decision construct should be conceptualized for a project-oriented business.

Conceptualizing Mode of Entry Decisions of Engineering Consulting Firms: Dependent Variable

In the entry mode literature, which is predominantly situated in the manufacturing sector, the modes of overseas entry are classified as concrete categories such as licensing, joint ventures, wholly owned subsidiaries, and acquisitions. Each of these categories corresponds to a different level of resource commitment and degree of control by the entrant firm. There are essentially three significant points to note about the way the mode of entry decision has been conceptualized in the past literature. First, the notion of entry itself has a long-term connotation, in the sense that the firm enters a country to establish a long-term presence in the country. Second, it involves a choice between various legal arrangements such as licensing, greenfield investments, joint ventures and acquisitions. Third, the decision is a one shot exercise involving a clear-cut choice among the different legal forms.

According to the traditional conceptualization of mode of entry, it is the mode adopted by a firm at the time of entering a country. Now, in the context of engineering consulting this would mean the mode adopted for a specific project, which often provides entry into a country. However, the choice of a particular mode is only relevant for a specific project and is dissolved on the completion of that project. This obviously raises the question as to whether an entry mode adopted for a 'project' in a certain country constitutes a mode of entry into that 'country'. But the data also suggests that each project is unique and often a different arrangement is adopted for a subsequent project. Thus, unlike manufacturing, where the mode of entry is likely to stay that way for a fairly long period of time, this is not the case for professional services such as engineering consulting. However, if a firm enters a country project by project using a different legal arrangement each time, this raises an important theoretical question as to what 'entry' means in the context of a project oriented business and consequently, what 'mode' means. This is the focus of the next stage of analysis.

ANALYSIS: STAGE 2 Following the critical insight from the data about the central role of the project based nature of engineering consulting in understanding the firms' entry into overseas markets, the interview texts were re-read. All activities surrounding a firm's project-based entry into a host country were identified. Four different aspects of mode of entry were identified. First, while firms make a project by project entry into different countries there seems to be a notion of permanency or different degrees of presence in any country. Second, engineering consulting firms do adopt a variety of legal arrangements including wholly owned subsidiaries, permanent joint ventures, acquisitions, temporary joint ventures, subcontractual arrangements or associations. Third, there is much emphasis on the type of physical presence in a country. Fourth, a firm may either enter a country on a project-basis or do so with a more deliberate strategy to exploit a country or a region as a market. Each of these four issues are now discussed in more detail below.

Degree of Presence: Notion of Permanency. The firms are continuously entering a country project by project. While the firms are carrying on their project level activities, the data suggests that simultaneously there is a notion of different degrees of permanency or degrees of presence in the host country. Usually, a single project represents a firm's first foray into a country, which may be followed by a succession of more projects. The project by project activities culminate into a certain degree of presence in the host country. Thus, in order to conceptualize entry into a country in its traditional sense of long-term presence, it became increasingly clear from the data that the entry mode decision needs to be viewed as an entry mode *process*. The notion of permanency or a long-term presence is expressed in the following quotes from the interviewees:

> .....Yeah but these really are some pretty hard decisions. To set up say, a joint venture, to create a new company, to create a new entity is a major investment. So what you are looking for there is a market that you feel you can sustain and grow over a long haul of 5-10 years. ......So typically you won't leap into a market like that. You get some experience- this perception of a more permanent need for a more permanent kind of venture will kind of dawn over time. You get a sense of the market, you get a sense of the client, you get a sense of the growth opportunities within that market... And typically if you've already got some projects in a country and you've got some relationships in a country then you've got a pretty good sense that you could go there on a more permanent basis...

> ...Well, our competition has gone through the same exercise of justifying permanency – I mean ownership equity or acquisition status versus joint venture status the same way we have. I have worked for three other competitors and I know their thought process is the same...

> ...Several projects in Hong Kong. The fact that we are located within a small engineering firm's office allows us to hire them on an as needed basis - we pay them rent for the physical space and on a case by case, project by project basis we will hire them as a subconsultant... Now from a long-term strategic basis we've taken a look at the possible scenarios. What can happen over the long term? Either we will build that office to a full production office, staffing it either with people we hire locally or people from the US. It could grow where we would from a more permanent relationship with that local company. We could eventually even buy that company...

It is important to note that even as the firm assumes a certain degree of permanency in the country, which is determined by different factors, the project by project nature of engineering consulting is preserved. This is reflected in the data as interviewees often use words such as "...every project is unique...", "it depends on the project...", on a project by project basis we had the opportunity to work with whomever we wanted to in Ireland...."

In summary, as the firms are continuously entering a host country project by project the whole process is culminating into a certain degree of presence in the country. The entry mode decision in the context of engineering consulting firms is an entry mode process decision.

Legal Form. The data reveals that there are a variety of different legal arrangements prevalent in the engineering consulting industry. Some legal forms are typically used at the project level and others are of a more permanent nature or last beyond the duration of a project. At the project level, the legal contractual relationships vary with the nuances of each project. This is illustrated by the following quotes from a couple of the interviews:

> ...We are mechanical consultants. We are builders, so we do ventilation, refrigeration, and heating design. We work for architects as subconsultants say, 70% of the time. And at other times we work as prime consultants. There's a mixed bag of jobs. It all depends on the different jobs...

> ...So one is where you subcontract with somebody. The other is where there are two completely separate contracts where the client takes this from you and then he contracts somebody else directly to do the rest of it. Subcontract is where you've taken the responsibility and you are giving some of the responsibility to the others...

A significant observation is that while the choice of legal arrangement is clearly one of the components of the entry mode decision of these firms, it does not appear to be *central* to the decision. According to the data, the legal form serves three purposes. One, it serves as a framework for liability issues and for the distribution of fees. Two, the choice of legal form may be dictated by the government regulations in some host countries. Three, clarity about the formal legal channels between the different parties on the team involved in a project fulfils a client's preference for a fixed point of responsibility. There is a clear sense in the data that there is something more to the mode of entry decision than just the choice of legal form. Here are some interesting quotes that illustrate where and how the legal form fits in the manager's scheme of decision making with respect to the entry mode process:

> ....Whether you are an association or a joint venture entity you are still going to work that way. You are still going to work that way. The architect may be a sub [subconsultant] to you but until they have come with the architectural concept you are not into the engineering so they are still leading the process in that sense. You see what I mean. So that's why effectively it tends to be two different things. So that's why I think that really the legal side of things has only two purposes. One is to set up a framework for liability issues and the other is to set up a framework for getting paid....

> ......remember, don't mix up the contractual form with the professional form. Because at the end of the day if the professional interaction does not go well it shows in the product and the client gets the feeling they've had a bad service. So the cost estimator, lighting consultant, civil engineer, architect-engineer all of these people that are involved in this process have to work very closely together to make sure that the product developed is a good one. It's a huge collaboration. In fact, sometimes we under estimate how kind of remarkable it is that this group of disparate people can get together for a project and deliver something where all the seams have been properly stitched up. It really is remarkable the process....

> ...It's not a partnership...mmm, it's not even a joint venture...somewhat of a joint venture. You work together. There's no formal agreement between us and the local engineering firm. We have a definition for what we do and what they have to do to serve the client. It's team work but not a joint venture....

> ...No, it is a joint venture...now I don't know what the semantics of defining a joint venture are...Now here is an example of a project in Costa Rica and these three firms are jointly responsible. You know, the words association and joint venture, especially when you are dealing with foreign countries, they are only words. The thing that is important is the responsibility issue. This group of firms in their agreement say that they are jointly responsible for the project. You can call that anything you want to – an association, a joint venture....

In summary, engineering consulting firms adopt a variety of non-hierarchical arrangements in addition to the hierarchical organizational forms. Most importantly, the choice of legal form is only one of the components of the entry mode process decision of an engineering consulting firm.

Physical Presence. The interviewees repeatedly allude to their methodology of work or how the work on the project is done which often has nothing to do with the legal arrangement in place. The legal form specifies the liabilities and fees splitting criteria but not the lines of communication required between parties to get the work done. The legal arrangement does not constrain the free flow of communication between parties that may not be connected legally. The decision with respect to the need for a physical presence and the type of physical presence then becomes important to facilitate the communication and organization of the whole project. The following quote very succinctly illustrates how the lines of communication among the firms on the team and with the client do not overlap with the legal channels.

> .... To give you an analogy, If you have some medical problem and in order to get ? you have to talk through the insurance company, it would be a disaster. It would be much better that you talk to the doctor but the money goes around like that. All I'm saying is that it is very important to make sure that there are alternative channels of communication over and beyond the contractual channels. The channels of communication should not just follow the contractual channels. There should be other possibilities. So on the Israeli project we were subcontractors to S & M which is a big architecture practice here. So there the client would pay S & M who would pay us and then we would pay our subconsultants. But then those subconsultants were present at meetings with the clients. So they could make their views known directly and that's very important...

> ...On paper we're not directly answerable to the client, contractually we're not but the relationships aren't treated that way. We treat the client as though he is our direct client and the client treats us as though we are his direct consultants....

> ...The term association to me really means that we are working on it together... It conveys a multitude of things because a legal relationship can take place in any number of ways and there is not simple way of encapsulating the relationship...but irrespective of the legal framework that's been set up and who's sub to who and how the contracts are held and so on... the way in which the work is done is always very similar....the collaborative process of working together is rarely if ever impacted by the legal arrangement....

The emphasis on the logistics of work or the methodology of work seems to impact the decision about having a physical presence and then the form of physical presence in the host country. This is illustrated in the following quotes:

...Typically, the designs are done here and some in the local office. There may be one coordinating office to do all that. So different aspects of a project may need different kinds of expertise from different centers. So much of this is coordination and direction. Lot of this is just coordinating the stuff on a teamwork basis. So there is a lot of this going on because there are disparate disciplines and locations. It's the logistics that became very important for these major projects...

...We have forty or fifty offices in the US and yet we have one or two or three man project offices at many projects because there is something to talk about physical proximity. If there is a big project, we just open an office right there - in a trailer for example. So there is somebody there that represents CH2M Hill or another company that they could come by and talk to. There should be a living body there, you know, that's very important- even if it is one or two... all these telephones and video-conferencing etc. people still rely on face to face contacts and they need to have somebody they can hold on to, shake hands, and talk to on a day to day basis...

Further, there is a lot of emphasis on the need for relationship building in this business with clients, business partners, and often the business networks in the host country to improve prospects in a host country. This can be best achieved by "being on the ground" or physically present in the host country.

.... Yes constant. If you are present on the ground the chances of getting more work is there because if you have a good relationship with the client and he is happy with your previous projects, the next development is trying to do, if you're a friend he's going to find the same architect or different architect to work on the project and say here...you use him as your consultant...yes your chances are much greater of getting involved if you are on the ground...

....I think you create it [create trust and confidence in the client] by establishing a physical presence in the region. There is just no substitute for it. You can't do it by e-mail, you can't do it with faxes. You got be in the region all the time. And ultimately when your business gets big enough again, a very good example of why or when a situation warrants you to establish a regional office, to establish a joint venture company, to establish some kind of presence permanent in the country so you have somebody who's whole life it is to be in a certain country building that confidence and reinforcing that confidence. So there is no substitute for physical presence. The internet is a great management supplement letting you stay in touch with your people or letting you ? reports and products quickly but it's not a substitute for being there which is why travel costs in this industry tend to be so enormous and spending it as part of overheads. There is also no substitute for doing good work (as far creating the trust and confidence in the client goes)....

....What drove it was the core management belief, which I think has been proven well over time that nothing succeeds as much in the international market place so much as the knowledge of the client base and the knowledge of the country. It's terribly important to watch the clients get accustomed to seeing the same face time and time and time again. It preserves continuity, gives us a historical perspective and gives us a really intimate understanding of our client base. It let's us stay really on top of what is happening within given countries and given regions....

...If you've got people in a country who already work within a particular ministry and they are any good at all or if you are spending significant amounts of time in a country as a senior manager and you have devolved a strong rapport with your clients, then you should know of these projects even in advance of the public information....

To summarize, the decision about physical presence and the form of physical presence in the host country appear to be crucial for the logistics of project work and from a marketing standpoint. The most significant observation is that the legal form, while defining the point of responsibility, does not affect the methodology of doing the work or the process of service delivery. The data persuades that decisions about legal form and physical presence are distinct and serve different purposes.

Focus. With respect to the project based entry the data suggested that while for some firms a single project opportunity served as a spring board for entry into a country there were other firms that entered a country with a more deliberate strategy of exploiting the whole market or region. Thus, the firms either had a project focus or a market focus.

The following quote is an example of a project focus:

> .... Remember it takes a lot of money and time to pursue a project overseas. Once a project is there - now we open a project office in Singapore. That's an example of not opening up an office first but looking at a project and doing as much of marketing as possible outside of the company and then going in and opening a project office to complete that project....

Here are a couple of illustrations of a market focus:

> .... You see what is interesting about the NY office was that it wasn't set up based on a project. Typically, an office is always set up based on a project. But in New York there was a strategic decision taken that NY was a center of excellence for engineering services and if we wanted to reach the highest levels in international reputation we needed to have an office in New York. So the office was initially set up around three individuals. Only one of whom still with us in NY. So those three individuals came, they set up the office, they started finding work and so on...

> ....About the same time we made a semi-conscious, more an unconscious decision I guess that we sort of split up the world into Europe and Asia. We sort of said that Peter Flack you will now own Europe and Norman Kurtz you now own Asia. They did a little research, some travelling and met some people, tried to get ideas and from that two things happened. We embarked on some work in Germany specifically and we embarked on a lot of work in Asia It happened and has come about in two completely different ways....

Often firms have a regional focus as this quote suggests:

> …I think as a company we were looking at, if we want to be in South East Asia, what is a good place to set up our base? And because we were working in Vietnam and Thailand, they look at all these areas. They look at, if we want to set up a base here, can we get somebody reliable who can look after our interest…

There are numerous examples in the data of an "evolving market focus" as firms slowly make a transition from a project focus to a market focus. For example,

> …What's happened is for the year we've been there we've not only done the work on this job as we fly over but we've made connections in pursuing that work, we've made connections with other firms who approach us as program managers to become part of this project, OK.... We then talk with them about - there's a possibility for that we'd like to pursue other work with you so that that becomes another marketing opportunity where they are bringing us into their teams for projects. We make contacts with govt. agencies. Frankly our man over there ... He's met many senators because he's the main man for this project - our guy is the program manager for this project for the tenth richest guy in the world. So when I say we are ready to hire a full time person over there its because over this last year by working on this project getting the exposure associated with it and the client, its creating other opportunities...

There is some suggestion of a client focus in that firms follow their existing clients to the host country. The following quote illustrates the client following situation

> …What drives us whether we open an office or acquire a company…what drives us to those kinds of decisions is where our clients invest and like to do work in those parts of the world….if enough of our clients, enough of our good clients, clients that we have a very good history with came to us and said we are opening a facility in such and such country and we want a local engineering firm…then we will open an office there… We won't necessarily open an office there if only one client who has only one project tells us that….

In sum, when a firm first enters a host country it may either follow a project there or follow the market. Firms that make a project based entry may eventually evolve to a market focus. Some firms may follow existing clients into a host country which may be called a client following focus.

ANALYSIS: STAGE 3 Based on the analysis up to this point, the entry mode decision of these firms involves decision making related to four aspects: the degree of presence in a country, the type of focus, the legal arrangement, and the form of physical presence. In order to get a clearer sense of these different dimensions of entry mode, a detailed profile of each firm's entry into each country was drawn up. The Nud*ist tree was modified to enable a firm wise analysis. The data contained examples of 68 entry mode decisions spread across 19 firms. These 68 entries are the profiles of entry of each firm into various countries. Entries of four firms are presented in Appendix C to illustrate the wide range of countries covered and the variety of profiles of entry. This detailed analysis was necessary for three reasons. First, to confirm if the profiles of all the entry situations in the data could be described in terms of these four dimensions and to be able to articulate better the theoretical significance of the four dimensions. Second, this exercise would help identify the different categories under each dimension, that is, operationalize each dimension. Third, it was a way to reduce a fairly voluminous amount of information into a more manageable form and see more clearly the patterns and categories. As Tesch (1990) observes while much work in the analysis process consists of 'taking apart', the final goal is the emergence of a larger, consolidated picture.

All cases of entry into a country are classified under three degrees of presence, namely, permanent, transitory, and temporary. It seemed reasonable to use the number of years of continuous presence as an indicator of the degree of presence in a country. The duration of more or less continued project by project operations ranged from one year to thirty years in the sample cases. The data suggests three broad time periods or degrees of presence. Firms that have been in the host country for ten or more years are classified as permanent, those in the five to nine years category have a transitory degree of presence, and those that have been doing projects in the host country for four or less years have a temporary presence. The number of projects completed and currently underway also reflects the degree of presence. However, the information about the number of projects is incomplete in the data. The profiles are summarized in Table 3-1.

Table 3-1: Summary Table of Entry Decisions from the Data

	Legal mode	Physical presence	Focus
Permanent (10 or more years) 32 entries	**11 wholly owned subsidiaries(wos) 5 permanent joint ventures 4 acquisitions 2 project joint ventures (jvs) 3 solely run teams 1 partial ownership position 1 licensed relationship**	**-wos accompanied by complete engineering set ups -permanent joint ventures accompanied by joint offices -acquisitions accompanied by an engineering set up -elaborate offices with full engineering setup -project offices, site offices -liaison office with more than 20 people - country office -regional office**	**3 cases of project focus 8 cases where market focus evolved from project focus 19 cases of market focus**
Transitory (5-10 years) 17 entries	**2 wholly owned offices 4 permanent jvs 5 assoc/subcontracts 3 project jvs 1 solely run team**	**-joint offices -project offices -sales rep offices -larger liaison office**	**9 cases where a market focus is evolving 8 cases of market focus**
Temporary (1-4 years) 19 entries	**1 wholly owned office 1 permanent jv 12 assoc/subcontracts 5 project jvs**	**-project offices on client's premises or in partner's firm -temporary visits**	**14 cases of project focus 5 cases of market focus**

As shown in Table 3-1 there are 32 cases of **permanent presence** out of the 68 cases of entry across all the firms. In terms of the legal arrangement, in eleven of the 32 cases, the firms established a wholly owned subsidiary. A wholly owned subsidiary usually involves a physical presence in the form of a full-fledged engineering office. At the level of the project, firms create associations/subcontractual arrangements and project based joint ventures accompanied by physical presence in the form of project and site offices where required. Five out of the 32 cases of permanent presence formed permanent joint ventures. Two of these joint ventures were created at a very early stage of entry in the country. The circumstances surrounding each of these two cases were, first, government regulations requiring a joint venture and second, excellent past credentials of the firm confirmed by an individual in the firm who had had prior interaction with the potential partner. Physical presence in the case of firms doing permanent joint ventures usually takes the form of a joint office. There are four examples of firms taking an acquisition position in the host country.

Two out of the 32 cases of permanent presence include elaborate offices with complete engineering setups staffed by 25-30 people. Further, there are two cases of a country office and a regional office, which have an administrative role of coordinating project work at a country level and a regional level respectively. In two instances of permanent presence (for the same firm) the legal mode adopted is non-exclusive partnering or project joint ventures. Yet the firm has a permanent presence as it has been doing work in that country for a long time. Despite the volume of work in the host countries, the firm did not establish any permanent organizational form and continued to enter into project by project or non-exclusive partnership arrangements because of a very diverse client base in the host countries with different preferences for local partners. There are three cases of solely run project teams involving teams of people sent to the host country based on the requirements of each project. Although these firms have been in the host country for 15-20 years they have chosen to temporarily send teams of people there to work on particular projects. The project office in two cases is situated on the client's premises. In the third case there is an office that serves as both a project office and a support office that looks for offshore financed projects. So the focus in this case is clearly project oriented. In all other cases of permanent presence, the firms either deliberately adopted a market focus in a particular host country or the market focus evolved from a project serving one after a certain length of time in the country. In summary, a permanent presence in a host country is associated with a whole range of legal forms, types of physical presence, and types of focus.

There are seventeen cases of **transitory presence** in a host country. Firms that have been in a host country for less than ten years but atleast five years are classified as having a transitory presence. There are two cases where the firms have a wholly owned office registered like a wholly owned subsidiary. In one case, it was set up to fulfill govt. regulations and in the other case it was set up with the intention of using it for establishing a base in the 'region' because of the growing volume of business there. In four out of the seventeen cases of transitory presence, the firms have permanent joint ventures. The data suggests that the reasons for establishing a permanent joint venture are diverse. Extremely bright prospects of work in a host country, government regulations, and the client's preference are some of the drivers of the decision. Usually, a permanent joint venture is accompanied by a joint office in the form of physical presence.

The information on what was going on at the project level in these cases is missing in the data. In five cases of transitory presence, associations that include different forms of subcontractual relationships were adopted project by project but there were no arrangements beyond the life of a project. There are three cases of project- by-project joint ventures. There is one case of a solely run team used to cater to a project. Physical presence in all these cases is in the form of project offices set up jointly with a local associate and located in the latter's premises or in a space provided on the owner's premises. Other forms of physical presence are small sales representative offices and larger liaison offices with more than ten people. The data to assess the type of focus is incomplete but there are clearly 8-9 cases of a project focus that are currently evolving into a market focus. The firms are actively pursuing new project opportunities after the initial one or two projects that provided the firm the initial basis of entry into the host country. There are also cases where the firm enters a country to explore it as a market because of potential opportunities there. Again, a transitory presence is associated with different combinations of legal forms, types of physical presence, and types of focus.

There are nineteen cases of **temporary presence** in different countries. All cases where a firm had completed or was currently completing one or two projects and had been in the host country for not more than four years are classified under temporary presence. In 2 out of 19 cases, the firms were required to register as a wholly owned subsidiary and a joint venture respectively by host government regulations. In the majority 17 cases, the firms adopted project-based arrangements such as associations or subcontractual relationships and project joint ventures. Physical presence in these cases takes the form of project offices for which the premises is provided either by the owner/client or by an associate. In addition, staff members make frequent temporary visits to the host country during the implementation of the project. The focus is project serving in fourteen of the nineteen cases and market serving in the remaining five. To summarize, a temporary presence also seems to be associated with a variety of forms of legal arrangements, physical presence and focus. But there is a relatively clearer pattern here in that a majority of the cases involve temporary legal forms such as associations, temporary physical presence such as project offices and project rather than market focus.

The profile analysis of entries of firms into various host countries confirmed that the four dimensions identified earlier actually manifest themselves for the entire inventory of decisions contained in the data. There are several instances where information about all four dimensions is missing or not very clear because the interview questions were not deliberately designed to capture these specifically. Still, there is more than sufficient data to suggest that each entry mode situation is a configuration of the four dimensions and each firm's entry into a particular country fits a certain configuration of presence, legal form, physical presence, and focus, at any point in time.

There are three things that stand out about the nature of the configuration. First, there are different permutations and combinations of the four dimensions, clearly, because of the interplay of a multitude of factors affecting these dimensions. These factors are discussed in the next section. Second, the configuration changes as a firm continuously enters a host country, project by project. The data suggests that firms tend to make a transition from a temporary presence to a permanent presence. Simultaneously, the focus of a firm often gravitates from a project towards a market focus. Further, firms set up different types of offices at different points in time either to serve a specific project or to serve the market as a whole. Legal forms might also undergo a change, especially arrangements lasting beyond the duration of a project. It is important to note, however, that whatever the configuration in the entry mode process that the firm fits at a certain time, individual projects continue to be organized in different forms depending on the nuances of the project itself, client preferences, availability of expertise in offices at different geographical locations and so on. Third, the four dimensions of the entry mode process decision are not mutually exclusive. These are, in effect, the structural components of the entry mode process that together contribute towards enhancing the degree of presence. The interrelationships between the four dimensions and how they are likely to reinforce each other are described in a later section of the chapter.

In summary, the entry mode process decision can be illustrated as follows:

Degree of Presence..Degree of Presence
temporary, transitory, permanent
Focus..Focus
project, market, evolving
Legal form:...Legal form
associations/subcontractual form, project joint ventures,
wholly owned subsidiaries, permanent joint ventures
acquisitions, consortia
Physical presence...Physical presence
frequent visits, project office, liaison office, site office
elaborate eng. office, branch office, country office, regional office

Summary of Dependent variable

It is evident that the entry mode decision construct, in the context of engineering consulting, is theoretically much more complex than originally conceptualized in the starting conceptual framework for the study. There are two things that become amply clear about the mode of entry decisions of a project-based business. First, the mode of entry decision is not a unitary construct involving a decision on the legal form of entry into a country. It is a multidimensional construct. Second, it is not a one-time static decision but a dynamic process. To summarize, the firms go through a process of market entry entailing decisions along multiple dimensions namely, the degree of the firm's presence in the host country, focus, legal mode, and the type of office. *Therefore, the entry mode decision needs to be reconceptualized as an entry mode process decision.*

Factors Affecting the Entry Mode Process: Independent Variables

The next stage in the process of analysis was to focus on the factors affecting the entry mode process. The initial starting point was the existing conceptual framework. But in light of the revised conceptualization of the entry mode decision it was important to explore what leads a firm, which is temporarily but continuously entering a country project by project, to assume a more permanent presence in a country. Also, it was now important to explore the factors and issues in the context of the four dimensions of entry. This required going to the interview texts again to examine all events and activities related to entry into a particular country. The analysis strategy was case-based, with the firms in the sample constituting the cases. The Nud*ist tree was organized firm-wise with a node representing each firm. Exactly the same conceptual categories were created for each firm. Although, this was a more cumbersome way of organizing the text it made analysis easier in three ways. First, it facilitated easier identification of issues that were consistently repeated across all firms. Second, it helped identify issues that were unique only to a few firms. Third, counter arguments about the same issues could be easily tracked and contextualized for different firm-specific factors such as size and specialization. Thus, the firm-wise organization of the data helped keep a note of the frequency at which each issue was repeated in the different interviews as well as identify outliers.

In order to understand the role of different factors in affecting the different dimensions of the entry mode process, the texts were posted under the relevant conceptual categories as well as under the subnode for the dimension it appeared to influence. It also became clear that the factors were likely to affect the different dimensions of the entry mode variable to varying extents but were not mutually exclusive. Therefore, initially there were many multiple postings of the same text units under different subnodes. They cumulatively impact the degree of presence in the country and thus 'entry' on a long-term basis. As mentioned earlier, Nud*ist has the provision to create memos to document any observations and thoughts on the data. A memo was created for each conceptual category and the dimensions of the entry mode construct. Short notes were made of any patterns that emerged in the relationships between different factors and the entry mode construct and also any interactions between variables that became apparent. More importantly, notes could be made about the different dimensions of concepts that were very broadly defined in the conceptual framework. This provided an understanding of what comprised these concepts and particularly what they really meant in the context of these firms. Professional service firm characteristics are a good example.

This phase of the analysis contributed to the development of the conceptual model for the study in three ways. One, by elaborating and modifying the concepts in the existing conceptual framework to fit the professional services scenario in general, and engineering consulting in particular. Most of the broad constructs in the existing conceptual model were relevant but there were additions and modifications made to the variables measuring those concepts primarily because of a different nature of the industry. Especially important is the operationalization of PSF constructs, which are very generically defined in the existing framework. Two, by adding new concepts to the initial theoretical framework. Three, by conceptualizing more clearly the relationships between variables. For example, the role of PSF characteristics in the entry mode decision. The next three sections deal with each of these issues in detail.

Elaboration and Modification of Concepts

Factors affecting the choice of mode of entry decisions that are part of the starting conceptual framework include global strategic variables, environmental variables, transaction cost variables and professional service firm variables. The definition of each of these variables is now reviewed to facilitate comparison with the way the same factors are conceptualized in the data. This will illustrate if it makes sense to redefine or expand any of the variables.

Global strategic variables include global concentration, global synergies, and global strategic motivations. Global concentration arises when there are a limited number of players in the global market such that any action the firm takes in a particular market or country will have repercussions in other markets. Global synergies or global economies of scale refer to economies with respect to inputs such as R&D, manufacturing, and brand name, which may also affect the choice of mode of entry. Global strategic motivations include entering markets of global rivals even if it is not economically viable, to establish a strategic outpost. The data reveal that the global strategic issues that seem relevant to engineering consulting firms are a few global economies or synergies. The following quote very succinctly describes why global economies are relatively fewer in the engineering consulting industry:

> …It's difficult to recognize a lot [of global economies of scale and scope in this industry] because what ever you could save by centralizing a function you lose by being unable to personalize it and you lose something in the area of flexibility. Say for example if we have centralized proposals for development and I have production office here, all proposals will go through here, that's the way it is and we'll save a whole bunch of money because we are going to have one production staff, one team. I suspect what we lose on the other side is a lot of business because you lose the capacity to do your proposals in the field next to the client to collect that additional information, quickly, efficiently, effectively, and customize the product so we can know what appeals to a very specific client. So I would say that economies of scale financially are possible but from the standpoint of business generation it's probably not very efficient…

Three types of economies were identified in the data. First, in the engineering consulting industry, there are global economies arising from a firm's network of offices globally and more specifically regionally, around the host country. The economies arise in the form of sharing of staff across offices as well as the use of office space. Staff from offices already existing outside the host country are often used for various stages of project work in the host country. For example, if there is already a full scale office operating in the region around the host country it could be used for doing the design work, thus, dispensing with the need to set up another office in the host country. Particularly common is to use sales and marketing support from another office in the region to scout for more work in the host country. There are also instances where despite an office in the country input may be drawn from other offices depending on the expertise required for the different aspects of the job. In firms with a more elaborate network of different types of offices, much of the design work may be done in some of the bigger offices or those that come to assume the status of more specialized centers. Thus, both sharing of staff and offices are the two major global economies that engineering consulting firms can reap internationally and domestically.

The following is an excellent illustration of how engineering consulting firms operate differently from manufacturing and accordingly, the kind of economies they reap:

> ...In engineering a wholly owned office is rarely capable of being self-sufficient whereas a wholly owned subsidiary in manufacturing is probably capable of being self-sufficient. Self-sufficient meaning that they do the entire whatever it is there. A wholly owned office is probably still going to depend on people here in New York for it's expertise, specialist expertise and high level of skill. You can't afford to have experts in every office even if you have all these offices. So it's rare that it is self-sufficient. So I don't think it is quite equivalent. You build a plant in Israel to make cars, the plant makes cars and it does that without really needing much from Detroit or wherever. Whereas our office in Israel relies on us to give it technical support and information, to lend people and so on. It's a very different relationship I think...

> .... We established a very very small office in Hong Kong as our Far East representative office. So from Hong Kong those people travel on a day to day basis to the Philippines, to Malaysia, to Indonesia, China, Korea...

Second, in engineering consulting work is organized on a team basis. The business knowledge and skills built and coordinated at the level of the team are very critical. The use of the team offers some economies in being applied to multiple projects. For example,

> ...We work in teams of people - engineers, production staff of CAD operators, or people advancing their careers and learning as they go. If we take that senior engineer away from that team and put him locally to work with another team it leaves an imbalance. If we take that entire team and move them because of one project... typically we will work on as a firm – I'll take a ball park figure of five times as many projects as an architect [the firm associates with architects]. So taking say, a three person participant team and moving them somewhere else would mean that would have to be an extreme project that would command an extremely high fee to dedicate those people.....

A third economy arises if a firm is diversified and one or more of its divisions is already global. The division of the company that is now entering the host country can use the existing infrastructure of the other division of the firm. Other than the physical facilities such as an office, the contacts and relationships created in the past by the other divisions can be used to the advantage of the current division too. The following quote illustrates the economies that can arise from other parts of an organization having a preexisting infrastructure and relationships globally:

> ....Just doing structures and in 1992 they decided that there was enough of steam built up to start introducing the building services disciplines. So I came over in 1992 to set up the building services side of the business. So I'd been working in the London office from 1978 until that time. In 1992 when I first got here the office at that time was around twelve people including myself. And through some fortunate circumstances, the fact that we can actually use our international connections [built through the internationalization of other disciplines of the firm] to provide a better service in some respect, and the fact that you actually have some very good people here, we have effectively been doubling every 18 months...

Clearly, most of these global economies, especially those related to the sharing of staff are attributable to the project by project nature of the industry and the highly mobile nature of the firm's dominant asset, that is, people.

Environmental variables include country risk, location familiarity, demand and competitive conditions. Host country risks refer to issues such as political instability, price controls, local content requirements, and currency convertibility risk which have significant implications for the mode of entry decision. Location familiarity which looks at the distance between the home and the host country in terms of culture, economic systems, and business practices has been found in previous studies to impact the choice of mode of entry of firms going overseas. Past research also suggests that demand uncertainty and intensity of competition affect the choice of mode. In the interview data, country specific issues raised by the interviewees revolve primarily around five factors. First, cultural factors including language, contracting philosophies, and work ethic. Second, political factors such as general political instability in a country also leading to economic volatility. Three, regulatory factors including government regulations with respect to the need to establish a registered company, and repatriation of profits. Four, both current demand and the perception of potential demand seem important. Five, the difference in the levels of technological development of the home and host countries is brought up several times both in terms of technical competence and managerial capabilities.

The following quotes are examples of the environmental variables such as political instability, unfamiliarity with the culture, especially the business practices and business networks that seem to impact different aspects of the entry mode process decision:

> …We could eventually possibly buy that local company or a lot of which depends on July 1, 1997 (turning over of Hong Kong to China). We'll see to it – right now we have three people there – we'll see to it that they have an airplane ticket in their hand just in case…[there is trouble there]…

> …It would be very unusual [to set up an office even before getting a project]. You need to prove to yourself that you are going to able to operate reasonably profitably. You need to prove that you can more or less understand how business is done in a country as the cultural context differs so much. Business practices. You understand it by going back and back and back and spending weeks and weeks and weeks trying to understand the place. To give you an example we just opened a country office in New Delhi and it took us may be two years that we could justify that office before we opened it…

> ...I think we are better off, much stronger with a known, reputable organization in India who have their own networks and a good understanding of the business climate and how business is done. They bring into the partnership a great deal of value and we bring things such as process knowledge and technologies we work in and they do not and we also bring in our business experience in many countries. But to me it is unthinkable to go there by myself - Bombay is a city of businessmen and you don't know anything of how they are thinking and what they are doing. I really need my partners there…

> ….The reasons for doing a joint venture are several fold. It can be because you truly have complementary talents - we've great in roads but you're great in water and the job requires both. It may be because one or the other has greater technical expertise but the other firm has greater local capacity or greater local experience and better connections locally, better relationships with the client. So it can be a universe of reasons. Now typically a joint venture is for the local firm, why because you need local input, one, the local firm will invariably have better access to the community of local professionals than you would. we need local professionals, two, because you want to avoid putting those professionals on

your pay-roll because then you have to all of a sudden become an expert in local labor law which is not something you really want to do. Three, because the local firm can manage it's logistics of a project more cheaply and more efficiently than you can. They know where to go to get office space, to buy furniture, to buy computers, to get cars, which may sound simple but which can really if not handled properly impede the progress of a project. And four, the local firm s likely to know the client better than you. Therefore the local firm is likely to know whether the products you're developing are germane to what the client really wants etc. etc. etc. … So that is one kind of joint venture strictly on a contract by contract by contract basis….

Current and potential demand seems to be crucial for the decisions about physical presence, legal form, and the degree of presence in the host country. For example,

…No what we will do is tailor our office to what we believe the requirements of the local business climate is. So in this case we'll start out primarily as a design office and then hopefully move in to more construction supervision capability but we're not going to try to be a full fledged civil engineering firm there because the local market doesn't require it….

…If in fact you think that your market is large enough and your potential in the market is strong enough then you create or you may create a joint venture which would be responsible both for pushing your interest for marketing in which case you've got to give it the capacity for developing it's own proposals, doing it's own staffing, doing everything that is required to win business and simultaneously you want to oversee whatever business you have in that country and perhaps in adjacent countries as well…...

…Perhaps we had formed an alliance with some clients and they said look we formed this alliance with you and we now need to do our project work in China so you need to be there in China. You know again, we would not open up an office in China unless we had, you know, I don't want to say guarantee, but a real strong business relationship with the client which would predicate opening up the office…Primarily it [decision to set up a solely owned venture/permanent office] is market driven. I would say that if enough of our clients express an interest in doing projects in – say, country X for example – enough of our clients, enough of our good clients, clients that we have a very good history with came to us and said look we're thinking of opening up a facility in X….we would open an office there….

This is an interesting example of how sufficient market demand might offset the effect of an unstable political and economic environment in a host country:

…It has been a very unstable part of the world but again enough of our clients have given us more or less guaranteed work in Brazil to substantiate that investment. If that were not the case we would not have taken an ownership position. That's another reason that you very often go with a collaborative partner if you're not sure of the actual market potential from a certain part of the world you are obviously much better off to go in with a partnership arrangement and a non-ownership scenario….

The following example illustrates the role of both government regulations and the level of technical competence available in the host country:

…Now the difficulty in the Middle East is that they don't have any firms over there that are competent. We found that out through these joint ventures. Our joint venture entity which is primarily our local

> partner in a specific joint venture company that we are part of because that is the laws of Saudi Arabia - that's how you're supposed to do work there. You have to do joint ventures. You can't just associate. It can't be an association - it has to be a joint venture. It has to be a legal entity to do work in that country. But the local partners are not competent as they are in China so those projects didn't go well financially because our partners did not support us properly. So for the future we plan to open an office in Jordan and then get work in Saudi Arabia without the need for a joint venture....

Overall, the current and potential demand in the host country, role of host government regulations, level of technical competence of host country firms, and unfamiliarity with the business culture appear to be key environmental concerns of these firms.

Transaction-specific variables in the conceptual framework relate to the value of firm specific knowledge and the nature of knowledge. The value of firm-specific know-how pertains to the risk of dissemination of know-how. Transaction costs theory suggests that the firm-specific advantages a multinational firm enjoys relative to the host country enterprises, generate quasi-rents which may cause licensees or partners in other contractual modes to disseminate the knowledge. The second element of the transaction-specific variable in the framework is the tacit nature of knowledge. Tacit knowledge cannot be codified which makes it difficult for any party to know ex ante what the cost and value of the transfer will be. This gives rise to the threat of opportunistic behavior on the part of either of the parties involved.

Surprisingly, a common theme emerging from all the interviews is that, while acknowledging the prevalence of different forms of opportunistic behavior in the industry, the interviewees provide strong arguments for why this is not a major concern. The nature of what these firms sell often became the focus of discussion when specific questions were asked about the threat of dissemination of knowledge by business partners. The interviewees alluded to different types of knowledge that they perceived as the source of the firm's advantage. Repeated reading of this portion of the text suggested that it was important to understand "what" the firms sell in order to better understand the implications for the risk of dissemination of knowledge and also explicate the tacit characteristic of knowledge. The next step was to go over the entire interview text and index all references made to different types of knowledge as a separate "knowledge" node. There was an overwhelming emphasis on the experiential and non-technical types of knowledge and skills. These seem to have interesting implications for the threat of opportunistic behavior of business partners.

There are abundant examples in the data providing a rationale for the mitigation of the threat of opportunism both from business partners and clients. Specific questions about the protection of knowledge elicited responses that varied from 'it is not worth worrying about' to detailed discussions of the non-technical advantages held by firms. The data revealed the following factors as possible mitigators of opportunistic behavior of business partners and clients: the highly experiential types of knowledge being central to what the firm sells; the importance of reputation in the industry enhanced even more by the project by project nature of business; the role of the history of relationship with clients and business partners; a high degree of customization of designs; the wide gap in technical and managerial competence between the firm and the host country; and the reputation that the firm enjoys by virtue of being a North American firm. Here are a few quotes from the interviews to illustrate the interviewees' responses to questions about the threat of opportunism:

> .... What we put down on the paper is the end product. Of course we have certain techniques that you can see clearly how things are connected and things like that. But again those things are in the book but

it is the process of getting to show what we show. That you can't copy - you've got to understand the process...

....I guess - the basis of business would change on-going change - no way to stand and hold it back. So it is not worth worrying about....

The following quotes highlight the importance of experience in the application of the technical engineering knowledge:

....It's a whole lot more complicated than manufacturing. Manufacturing is something that you see in black and white once you have the process there. You can copy it. In designing buildings, there are so many nuances in the design, technicalities, that you have to understand. And everything that you can learn from the book, it's available everywhere. And we became well known is because we have extensive experience, we have good people and these are the things that you cannot really transfer. You cannot take somebody's head and Xerox it and take it with you. It's all thinking process. The process is never clear-cut. You cannot describe it. As you go to design each building, it's not a repetitive process. Every building is different. Thinking process has to go in and depending on how big a knowledge you have and how in-depth a knowledge you have that can design a better building. Each time you have to think, unlike manufacturing. Once you have it packed down you can just keep repeating it....

....It's very obvious that any time we work with the local firm and we pass on our knowledge and expertise in the form of documentation to them to take it further. But they then have the benefit of having that. ...It's in their experience, it's in their tool bag. That's understandably going to happen. A person who has never worked on a hotel project who learns from us how to design hotels will then be able to say to his local clients ...we've done this big wonderful hotel with F&K and we now have the knowledge. We can now do it independently without them. Now, we don't think they can because they then have the experience of one specific hotel with one set of experiences and one set of rules that were established for that one project. We on the other hand have fifty. We can fall back on the experience of fifty. So that's our selling point for the next project.

Here is an example of the importance of reputation and the need for ongoing relationships in the engineering consulting business:

...I think now people are beginning to have a little bit of a longer range view of things. One shot at those kinds of things don't get you very far. If a subcontractor does something like that - it's very unlikely - but if he does, if he competes with the parent firm or the prime contractor future contracts will not be there. So they know that even from a selfish interest point of view if they do something like that they wouldn't be able to continue that relationship and I think people are beginning to think more about the long-term relationships...

The entrant foreign firm from a more developed country enjoys the reputation of being an 'international' firm. The clients are likely to perceive the international firm's expertise as superior to the capabilities of local firms.

...No it [the need to protect knowledge] doesn't because the alliance is almost a precondition of success. The saving grace I should add is that even a technically competent company in a third world country

> doesn't have the credibility of an international firm and therefore is probably a limited opportunity to compete with us. In many instances the funding agency just requires an international firm...
>
> ...We're not building rockets. The work that we do has been around a long time and it's all over the world. The one thing that we do have is the reputation of the work that is done in this country. This country has far exceeded any place else in the world as far as building out, building types, quantity of construction that we've done, the buildings that last as long as they last. So in any place in the world that is developing. The US still has that thing attached to it that if they really want to do the best people will come to them and get them involved. Now China, we know that they can do just about anything that we can do but the perception in the industry is still from the client base. If I want the best I need to go to the US...

The following is an example of the role of customization in reducing the risk of opportunism:

> .... In a service engineering type of business there is enough customization so it is not really that somebody can walk away with it. For the most part this is less of a problem for most of what happens these days...yes, there is always a component that can be copied but it is not worth it to copy that for the most part. So the danger is much less and probably exaggerated quite a bit....
>
> ...Copying...copying parts and portions is difficult. Unless you copy, take this set of documents and build it some place else, yes, you can build it. If everything, all the conditions in that new locality are absolutely identical...it may not be...for example a building in one location has certain kind of wind exposure..let's say a building a building in New York is designed to certain wind exposure - to withstand the wind of so many miles per hour. You take the very same building, assuming everything is identical and build it in Miami, it will fall down because the wind is higher. Likewise, you take location to location from a non-seismic area to a seismic area......

The following quote is an excellent illustration of not just the customization of a design to a specific location but also of the role of individual expertise and skills. This individually held knowledge in the firm reduces the risk of business partners copying the firms expertise, provided the firm can retain the individuals.

> ...[But you are putting your ideas on paper....]....But they are unique to a specific environment, a specific circumstance, a specific project. Its not that easy and rarely happens for anyone else to pick them up and use them somewhere else without having either of our skill set available to modify and adapt those drawings or specifications. The way usually you win a job other than on prices because you have people who have the expertise and not so much the company has the expertise so much as you have the individual people. And provided you keep those people you are fairly safe from having those secrets stolen – we don't really have any secrets. So it is a different system and there is nothing really to steal....

Here is a quote that brings out the gap in competence between the home and host countries as a mitigator of opportunism:

……The risk of course is the same. But what you need to understand about our business is that, one, it is a requirement of almost every job so that if you worry about that risk you have no business bidding the job. This a business in which if you are good you put yourself out of business in a sense because you are always trying to build local capacity. But in reality in most of the countries the local skilled man power or the personal power base is so shallow that it is really not a concern because typically what happens is that in third world countries if you train a person to an international standard of technical competence that person is immediately grabbed by someone in the private sector…..
[You are training them both technical and project management aspects? Do you see them becoming self-sufficient….] If you're talking about in five years, no, I don't. May be even 25 years I don't think. Because there is, in these countries, a lot of work to be done. Don't forget, to create a structure like the consulting industry and to get the mentality going, it's not easy. I was in Ghana in the 70s and worked in the private consulting industry – it has developed quite a lot now but they are still 25-30 years away from being self-sufficient. So it will take a very long time. Malaysia probably will come up faster….but most third world countries you are looking at 25-30 years…

The data helped elaborate the notion of opportunism itself. Opportunistic behavior may originate both from business partners as well as clients. Client side opportunism, however, seems much less of a concern. Here is an example of an interviewee's response to a possible threat of client-side opportunism:

[……is there a risk that the client might walk away with those initial ideas and hire a cheaper consultant?]
That sometimes happens, not very often though. It depends on the client and your relationship with them. Most clients don't expect you to reveal all your ideas at that initial point because they haven't given you enough information to form sensible ideas. You're going to reveal an idea you have to know very well that it fits the clients needs and unless you know the client's needs really well which you're unlikely to unless you've worked with him for a period of time. You are liable to come up with an idea that's just plain wrong. He's already thought of it and he has thrown away and discarded. So it's rare that we take the risk of saying to the client, we know exactly what you need - you need this, this particular design. Instead we say to him we don't know exactly what you need but our initial impressions are that it might be this or this……

Thus, the transaction cost variables were expanded to include the types of opportunism, and the factors mitigating the threat of opportunism.

Professional service firm characteristics Among the explanatory variables in the conceptual framework, the PSF characteristics are the most broadly and generically defined. An important purpose of the first phase of the study was to understand what these characteristics really mean in the context of the engineering consulting industry and operationalize them. Each of the PSF characteristics is discussed below.

Knowledge. The PSF characteristics included in the conceptual framework for the study comprised knowledge and skill intensiveness, reputation, intangibility, customization, and inseparability. Professional services are often defined as the application of knowledge and skills. Thus, it was important to understand what exactly constitutes knowledge and skills in engineering consulting. Like other professional services, engineering consulting is an intellectually driven service. The data suggests that the intellect, expertise and experience of the individuals in the organization are critical for customized and innovative engineering solutions to client problems. In addition to the technical knowledge and experience in its application, engineering consulting as a "business" requires marketing that entails extremely good relationship building skills. The following quotes reflect the general nature of what the engineering consulting firms sell. The emphasis on the intangible, the experiential, the relational, and non-technical aspects is clearly evident in these examples.

> ……The product that we sell is not directly used by the consumer. It is not a one time sale. We sell knowledge and we sell people and relationships. So there is a very intangible element rather than tangible…..

> ……You're selling yourself rather than something that your company makes. You are selling yourself and your colleagues. You have to go and persuade the client that you are intellectually better and that you have better experience and so on rather than that you have a better computer or better car or whatever that you make it better, consider better. So it's a much more personal thing. What the client's buying from you is paper. He's buying drawings, plans, specifications but what he needs to get those is you and you colleagues. So it's very personal. But if you are in IBM or General Motors or whatever, there you are relying on the strength of the product - the car, the computer, and whatever it is you are selling. [much less personal]….

> ……. We don't make widgets, we don't have a thing. Want to buy one - it works great, try it, try it. What I sell you is time, that's all I'm selling you. I don't have a product. You know plans and specs - that is not a product. What you're buying from me is time from me to think and deliver my knowledge to you and do it in a manner where a contractor can build it. That's my product and it is invisible. So the whole idea of cost accounting, marketing, how to develop business is totally, totally different. It's personal relationships that count…..

> ......We sell knowledge and expertise. And in many cases, in most cases we ride on the coat tails of the relationships we've established with architects - KPF will tell a Korean based owner that we would like

to work with F&K for the early stages of the designing, we've worked with them before and the relationship is very good……

More specifically, the importance of the technical expertise and skills held by individuals in the organization is illustrated in the following quote:

…The way usually you win a job other than on prices because you have people who have the expertise and not so much the company has the expertise so much as you have the individual people. And provided you keep those people you are fairly safe from having those secrets stolen – we don't really have any secrets. So it is a different system and there is nothing really to steal….

There is also abundant evidence in the data of the role of the knowledge of the host country held by individual staff members of the firm in determining the choice of legal form as well the decision about type of physical presence in the host country. For example,

…I think as a company we were looking at, if we wanted to be in South East Asia, what is a good place to set up a base? Can we get somebody reliable to look after our interests? And we happened to have a fellow, a guy who used to work in our Edmonton office who was from Malaysia and who still had an association there and was prepared to go and run an office there….

… We didn't know anything about Ghana for the most part. One of our employees one of our present managers - was from Britain - he had worked in Ghana when he was a young engineer and he thought we should definitely go after this project. It was a chance where he would be responsible for the development of the proposal and so on. The management decision to pursue the project was very much influenced by his energy and interest. And interest is a big factor. So he went out with the proposal and happened to meet a lot of people he'd worked with 25 years earlier and he was successful. He did the feasibility studies and later did the design... And one thing led to another and we never stopped working again ever since that time…..

The data also suggests that the project based activities of engineering consulting are organized in teams and these teams are a blend of a broad base of individually held skills and knowledge. The value-addedness arises from the interaction between individuals and their experience working together, which gives rise to patterns of coordination and communication that are absolutely critical to the timely and efficient delivery of service. It gives rise to synergies and new and better methodologies of work. Thus, there is clear evidence of the role of team based knowledge. The following examples reflect the importance of team based knowledge:

> .....What we do is diverse. I am an electrical engineer by training. I know fair amount about mechanical systems but I cannot pretend to be an expert in mechanical systems. You need to have team there but then how do we gain our expertise, I guess our broad based level of expertise and that's because of the fact that we are all asssociated in one office all the time - here. So if we take an engineer in each of our disciplines from here and put them in aparticular country say for a year to work on one relatively large project, they are out of the mainstream with what's happening technologywise and productionwise in the NY office. They've lost the daily contact with their colleagues and by the time they get back they're a year behind on what's been happening here......

> ....You've got to get a team that can work together. And that, if you talk of - do you have an edge over another [firm] - that is very, very crucial - to get a multi discipline team that knows how to work together. And I think any company that does not have that, has got a real major problem. So if our structural guys have worked with the electrical guys for ten years, with the mechanical guys, they know what they are going to be producing. ......And it makes it easy for them to talk to each other. Because all you are trying to do is to produce a good job within the budget. If money was not, if budget was not important, or if you take two years to do something, eventually you'll get it right. But that's not - we don't have that luxury. So, what I talked about, you've got to get a team that can work together. Money is a big factor - budget. And that's where you have the edge. If you can get a team that can put together something in six months, as opposed to another team that can put that package together in nine months, you will have a three month advantage......

In addition to the individually held and team based knowledge, a third type of knowledge or expertise that is repeatedly reflected in the data is the knowledge of organizing and managing a whole project. The process of service delivery involves different stages of work and usually a team of firms, entailing considerable organization and coordination. With experience, the firms seem to develop certain organizational routines, principles, and the ability to pull off a whole project. Project management skills appear to be as important as the technical competence of the firm and in fact, more of a source of competitive advantage for the firms.

> ......So they [Ethiopians] don't have this kind of organized consultant body that can take the job and run with it. And that is why, when we go in, we are going in more to provide that organized structure. But in Malaysia for example, I mean, sure - they have good electrical engineers and all that, but to get an organization that will actually start from scratch and design a power plant and put it into operation, you can't get, because they haven't got that structure in place. So that is what we bring as Canadian consultants to these places......

Thus, there is evidence in the data of highly experiential knowledge and skills embedded at different levels - individual, team, and organization.

"People" as the dominant asset. Intellectual capital or 'people' are the dominant asset in professional services. The data helped expand this concept by shedding light on the different aspects of the nature of intellectual capital or people that are likely to have implications for the different dimensions of the entry mode decision. Three main issues were quite consistently raised by the interviewees. One, high overheads attached to personnel; two, the difficulty in replicating people of the same quality in different offices; and finally the aspirations of staff and their willingness to relocate to a host country. The following three quotes are examples of the high overheads related staff.

> ....To bring an expatriate into a country to manage an office is expensive because you are not going to be able to charge that expatriate against a project. It is a pure over head, a pure expense. You got salary, transportation, benefits, housing and school for children - so it is a significant expense....

> ....being physically present in the host country it makes things a lot easier and the transition much easier if we are doing only a certain part of the work and passing it on to a local firm. But sending ex-pats overseas is very expensive. Unless the client is willing to pay for that we cannot afford it......
> (assoc. 301-307)

> ...... Again the cost factor for any of the firms that have gone -it's just too expensive to immediately open an office there - a real office....

> ....No, we're just in the initial throes in creating this venture but yes we will. We've also been fortunate because we've just won two very large project there. So because of those projects we'll have about 20 expatriates in the country anyway.....

The following quote illustrates the difficulty in replicating "people", the most important asset in a professional service industry:

> ....In a highly technical work, you are only as good as the people that you're working with. By establishing a different office, unless you have same quality of people the product is going to be different, OK. And you cannot establish branch offices everywhere and maintain the same quality because they are different people. What we do is not machinery that we can control quality on a consistent basis. It's all people, skills.... People are people, they are not machines. You have identical machines, you make it here you make it there the quality is going to be the same. In this business it is the people's mind.......

This is an excellent illustration of the importance of the willingness and aspirations of the staff to go overseas and are likely to enhance a firm's presence in a country:

> ..... There's something you should keep in mind. You wouldn't think of going to a country unless you've got people on your staff who are interested in working overseas. That is very important. We just like, in the local scene, where we've got these designers and these project managers, we go from project to project. When one project is coming to an end we've got to look for another project for them. You don't just sit back. So we've got a team of guys who are interested in international, who are out there. When their project is finished, we've got to look for something for them. So that makes us look at other opportunities. Because, the guys who are in Ethiopia, another year they'll be finished in Ethiopia. Some of them are not interested in coming to work down here, they prefer to work overseas. So we've got to look at what can we get for these guys. So that drives us into looking at other opportunities. If we didn't have anybody who was interested in overseas they'll be no need for us - why go for the job if nobody wants to go. So that is the driving force......

Often, an employee's interest may be the prime motivator to set up an office.

> .....Did you set up an office in Malaysia? Yes, but that's because there was a Malaysian who used to work in the NY office and the London office who eventually decided he'd like to go home and set up an Ovaarup office in Malaysia. That is why it was set up......

> .....I think.....honestly, you should not discount that there are some people in the company in small positions who are really interested in a particular country. You can mask it all in these objective criteria... but there is somebody who would sure like to work in Chili and thinks that it is a good place to work. That carries all the weight in the company's decision. Enthusiasm is a key ingredient. ....

The importance of people in these firms and their role as the main asset in international work is also reflected in the following quotes:

> .... [Speaking about setting up an office overseas and putting a team of people there]...it depends on the people that you send there – how well these people are adapted to the organization, how long they have been with the company, whether they are full-bred personnel that came from here and are sent there, or are these personnel who have been with us only or a very short time. For example, if you take somebody from another office, who have spent most of their lives over there but been with us for a little bit of time, you don't actually get our culture.......

In summary, people are the dominant asset and appear to have implications quite different from those of fixed assets such as plant and machinery. Unlike plant and machinery, people are difficult to replicate and they have aspirations. They are very mobile but are expensive to move overseas, especially in a project based business, because of overheads incurred just on account of personnel.

Reputation or credibility. Reputation is clearly reflected as absolutely critical to the engineering consulting business in general and is very important in facilitating its international presence. According to the data, reputation seems to be important at two levels - a technical and a relational level.

Reputation for technical competence emerges from the basic conceptual engineering knowledge and its application. Further, a reputation for reliability in being able to do the job on spec, on time, and of the requisite quality is as critical as it is to be perceived as technically competent. At the relational level, as engineering consulting is a very personalized business, a reputation for being able to manage and nurture a good relationship with both clients and business partners is of utmost importance. The industry in general has grown extremely competitive in the past decade, especially in North America, and there is no dearth of technically competent firms. As a result, relationship building and inculcating trust and confidence in clients has assumed an even greater role and seems to be one of the dimensions along which a firm can differentiate itself.

The following quote reflects how critical the reputation of the firm is:

> ....The intangible is basically the credibility and whether the company over many years, whether the company kept its promises, whether the performance of the clients and the processes that the company builds, whether they are still performing in accordance with the guarantees and the warranties. That's the intangible and it's a big one. It is the most important thing in this business. In manufacturing at least you can change the product and improve the quality but in this case it takes much much longer to improve the reputation. It takes less time to improve the tangible product than it takes to improve a broken reputation and credibility of the company...

> ...the problem is that he turns around and he says it isn't what he wanted. I want you to change it but I am not going to pay you any more to change it. Then you have to go back. That's the position that we discussed earlier. We've got to decide whether you can ask him for extra payment and get it or whether you walk away from the job, what he changes and lose money or whatever. But we rarely walk away from a job and that is for two reasons. One is professional reputation is severely hurt and you'll never

> work with that client again. And the other is that typically projects have follow on work. For example, you've done the design. The client's going to need someone to help him supervise the construction or may be to advice in the operation. So if you walk away from the job you are throwing away your ability to pursue the next phase, he next stage of the project...

The following quote illustrates the importance a client might give to the personal and relational aspect of the consulting service:

> ...What you come back to is that when you're delivering the service you're going to have a fair degree of interaction with the client and if he thinks that he is going to enjoy that interaction on a personal and a technical level he's going to be more favorably disposed to award the project. But he doesn't like you, he might respect you technically, but if he doesn't like you he is not going to enjoy that interaction - he's not going to be very pleased or disposed to awarding that project...

The data also sheds light on what the firms typically do to convince the clients about the firm's reputation. They show the client examples of previous work and provide references from prior clients and business partners. Credentials of individual staff members who would be involved in the project play a very important role. The firms also try to interact closely with the client in the prebidding stage, which helps explain the more "qualitative" dimensions of what the firm can offer to the client, aspects that cannot be expressed in the formal technical proposal.

> ....You cannot do it overnight. It sometimes takes couple of years to establish your credibility. You have to make presentations, establish relationships. If you have reference plants, they can visit them, or they can call your contacts. That helps - without that it's very difficult...

> ....Trust in our expertise, experience and reputation. Many people these days look for two things -one, the company has been there for a long time and does it have the liability insurance if anything goes wrong and the second thing is does it have experience with similar projects still have some high level of confidence so this will work.. A year ago I gave lectures at the Peking University. People had heard about our company. So the name already a step ahead. Because we know that this company has the reputation as the largest company. So in China-when a response for a proposal comes from this company there is already a credibility. By the way they are translating these books into Chinese. So they have adopted these books as their textbooks. So all that helps. It is not just one thing. Credibility makes a big different. Whereas if you have a product like a car or a pen, how that produce performs is really the beginning and the end all. Whereas in this kind of thing there is a continuous process - you design it, build it and operate it and the conditions change....

In summary, the data provides a clearer understanding of the different dimensions of reputation that are critical to engineering consulting firms and what firms do to affect the current and potential client's perception of a firm's reputation.

Intangibility. All services, including professional services, are characterized as being intangible in the services literature. The data makes the notion of intangibility more explicit. It provides a sense of the extent of intangibility and what the intangibles are in the perception of the service providers. The data also sheds light on how the firms deal with the uncertainty about the quality of the final outcome created in the minds of the clients. The data reveals four dimensions of intangibility of the service: people's intellect and experience; relationships the firm establishes both with clients and business partners; the role of judgement in articulating what the client wants; and credibility or reputation. Although, there is a tangible product in the form of a design or a report produced down the line in a consulting service, at the time the client enters into a contract to buy a firm's service, what he is essentially buying is the people's expertise, ideas and a relationship. The firms tend to deal with the uncertainty in the minds of the clients, arising from the intangible aspect of the service, by demonstrating past experience in doing similar work and also maintaining continuous interaction with the client during the initial stages or the prebidding stage to build up the client's confidence. The following quote illustrates the intangibility inherent in a consulting service and how the firms deal with it:

> …Engineering consulting firms are really competing on the basis of someone coming up with better ideas and mostly impressing the clients that we can do a better job. In consulting, because of the ethics we don't market ourselves out like we are the better guy, no…..We market ourselves like we think we understand your problem and we can address your problems better than anybody else…We don't and we can't say, we know these other guys [competitors] and we've better than them – no, its unethical to do that….So we use our past experience and recommendations from previous clients. We say, look,

you check with these people, we've worked with them, and they know our work….

….The client can't see that building there or he can't see that final outcome. But what he can see is the results of your previous collaborations…..

….[tell the client] But by the way we've done all the sorts of things you might need for so and so we did them really well and we've got Prof. Smith on our team who's the best guy in this particular aspect that you might need….

…Very start of the job before you really do any of the design. You need to try and fully understand what the client needs. And he will generally be unable to write that down. I have to ask the right questions and pull it out of them. It should be simple when they need a water treatment plant capable of treating water to supply to 10,000 people. But it's not as simple as there are many other questions that you need to know the answers to as to what the client wants but it is mostly judgment and opinion before you proceed and deliver what he wants. If you don't ask all those questions and you deliver something to him and spend all this time and effort, he's going to turn around and say, that's not what I wanted. Do it again…

…So when I say we're selling a product, the product we're selling is that we are selling a design that will give the client what he wants. Our design itself isn't what he wants. What he wants is the finished building, finished tanks. Since the design is only ten percent he thinks that the design is just a small component and he doesn't really focus on what's going on in the design. It's difficult for him to appreciate that the design can be so much better or worse than another one unless he's done it before…

…. Getting one built (one project) is the most important thing, so that when you have a potential client you can hop in the cab and ride around in the city and you can go - see that building - we did that rather than see these pictures we did these half way around the world. It doesn't mean the same thing....

…Our senior people travel on average about 50-60 percent of their time. They are always out in their regions, always. We believe that it is absolutely critical in two respects - one because we don't sell a physical product, you can't really pull something out of a sample case, there's nothing tangible about what we sell other than people. And at the end of the day a finished product will ?? So what you're really selling is confidence in the technical capacity of your organization and your organization's ability to work within a cultural context that is far different from ours…

The above example also highlights how the prior experience of having worked in the same cultural context also provides a sense of comfort to the client.

The data also suggests that a prior rapport with the client helps reduce the uncertainty arising from intangibility.

….The best way [to deal with the intangibility] is that if you have known, if you have personal relationships with the client's people which you have built up over a long period of time ahead of having any projects or on very small projects….

In summary, the intangibility of the engineering consulting service can be described in terms of the important role of ideas, experience, personal judgement, relationships, and credibility. These are intangible but firms try to minimize the uncertainty that stems from these difficult to measure dimensions by demonstrating past experience in doing similar work and maintaining continuous interaction with clients in the early stages of a project to build their confidence.

Consultant-client interaction. Interaction between the client and consultant is important and every stage of a project requires a different degree of interaction. The data sheds light on the factors that make interaction necessary and also on the varying degrees of interaction required at different stages. Interaction is particularly critical in the prebidding or initial stages, that is, even before being awarded a project. It is clearly a way of trying to cultivate a relationship with the client that would likely have consequences for the future relationship and the chances of repeat business. This is best illustrated by the following quote by a senior engineer in a municipal engineering firm,

> ....The consulting industry is different from the contracting industry where the contractors normally wait for an advertisement in the papers or by invitation and then put in a bid...so they just wait and look at the papers. But as consultants we have to develop some kind of a relationship with the clients for them to get to know us. See, when a client goes for engineering services, the client wants to know, to feel comfortable with the engineering company. So, with companies like ours and our competitors, we are amazed how many we crowd to do the same, we try to build a relationship with the client....
>
> ...And again you can't do the design in a vacuum, you can't just sit here and do it and give the client the design that would be what he wants. Firstly, he doesn't really know what he wants unless you draw it out of him. Second, you have to understand the local conditions, the local characteristics, the site, the flows that you have to treat and so on. You can't do that by sitting back here. You can't communicate all those things on paper...
>
> ...You can't manage a project remotely, you just can't. You simple can't. You need to make sure what you are doing is appropriate to the needs of the client. Projects aren't static there. They are dynamic and unfolding. Particularly, when what you are selling is services, needs change, perceptions change, requirements change. Unanticipated contingencies arise - it's just inevitable. And most clients are most uncomfortable with a lack of a presence, which is to say that they don't entirely trust the fact that you are going to do this off site. They wanna see you, be able to see you....

The data reflects the highly personalized nature of this professional service to the point that clients, particularly international clients, want direct interaction with representatives from the international firm even if that firm has a local partner who can attend to the clients' needs. The following quote very clearly illustrates this:

> ....The client's focus and attention has gone to this particular set of individuals and in his mind, psychologically, that other person [e.g., local firm] irrespective of how good they are, they might be the best engineers of the world, is in second place, right? When that happens, other than more routine administrative things, he would expect the people from our firm to be there because he feels that is the service he wants, those are the people whose interaction he has bought. Irrespective of how well or how badly the job is going it is a psychological thing......Say, the patient's in bed, right? The doctor comes in for a consultation every two days and he calls the nurse if he wants something on a regular basis. So he sees a nurse everyday or every couple of hours. He only sees a doctor once in a while. And in his line the doctor is a person really taking care of them and providing the expertise. Now all these perceptions have to be very carefully managed for the job to be successful. My partner in New York who looks after the far eastern work is out of the country one week in every three in the Far East. Doesn't do his family life much good. But the minute he lets that slip we start getting letters from client that we are not happy.....

In summary, client-consultant interaction is critical for the successful completion of a project. The interaction is particularly critical in the initial stages, in fact the prebidding stage, to fully understand a client's expectations and also to lay the foundation for a trusting working relationship.

Customization. There is a degree of customization involved in each design in that the final design and the process of arriving at the design are customized to a specific client or project. Different environmental conditions, different local codes and norms, and unique preferences of clients call for the need to customize. The following illustrations clearly suggest that customization is a central characteristic of the engineering consulting service:

> .... You really cannot look for a true cookbook formula to do any design for a building. Some of the basic engineering concepts and fundamentals are available in books but when and where to apply them and how to apply them has to be customized to the project....

> ...Again you'll have to look at it by discipline because we are such a diversified company. If you're going to look at engineering projects in a sense any engineering project is a customized process -

> bridges, roads, airports. But we set some conditions - - soil conditions, topographic conditions are different, design requirements are different but in a sense there are various generic categories - a rail road is pretty much a rail road. An asphalt road is pretty much an asphalt road. So there is a combination of customization and standardization I suppose. In case of some of the other fields we get involved in it is completely customized. You look at urban planning, space planning, economic forecasting, economic analysis, financial management, they are all completely customized to the requirement or the problem you are looking at for the client......
>
> ...Unless something is absolutely identical, fine they can reuse it. But if you can't understand the entire process, it is a dangerous business to do that. Even here, even in the US things of that kind happen. If you look at certain things, yes those things are there but they don't know what other peripheral things are involved to reach that thing that they see. This thing you see will work if every peripheral thing is in place. You need understanding to take this one and paste it in another place. It does not work that way. Not in our type of highly technical business....

To summarize, customization is a key characteristic of the engineering consulting service. The need to customize arises from idiosyncratic requirements of clients and host country conditions. The *when, where* and *how* of the application of basic engineering knowledge is adapted to each project. Further, the process of arriving at the final solution is likely to be different depending on the project.

Inseparability. The engineering consulting service involves a process of production and consumption of service. Production and consumption are likely to be inseparable to different degrees at different stages of the process. The following is a good illustration of the inseparability evident in the initial stages of a project:

> ...At the moment despite technology it's essential to be in the same place when you're discussing what the client needs, what he wants, when he's defining what he needs from you who is usually after you've been awarded the project. And when he's telling you where you didn't quite do what you needed. It is very difficult to do those things with e-mails or faxes....
>
> ...[Don't the clients prefer that you be there during the design phase?] Not for the design, no. The client wants us first off just to be able to talk, to maintain continuity and yes we send people there....(but the design is done here)
>
> .... With the design...it doesn't matter where you do it. But once you are at the stage of construction management and inspection, the guy has to be on site....

There are instances where the production and consumption of the service can be separable if there is an already established relation with the client. For example,

> ...You need the interaction with the client but you don't have to have - right now we sit here and we do designing for a job in Indonesia, a job in the Phillipines, a job in Brazil. Because we have established a relationship with these people and then you can communicate with them....

To summarize, the concept of inseparability appears to be rather complex for a service that involves multiple stages with each stage involving a different activity. It seems that engineering consulting is inseparable in the initial stages of a project but decoupling is possible during the design stage. The degree of inseparability again increases during the supervision of construction stage.

Addition of new factors

Some factors that emerged in the analysis were not a part of the existing conceptual framework and, therefore, are completely new additions to the model. **Contacts and relationships** established by the firms are of particular significance in the light of the project by project nature of business. The interviewees often brought up the relationships of individual staff members and the relationships that the firm is perceived to have with clients and business partners. Relationships and contacts at the time of the first project in a country as well as the relationships that evolve in the course of doing work in a country are emphasized. The following quotes indicate that the relationships built with the client over time are critical for the consultants:

> ....We try to cultivate a relationship with the client because we depend a lot on repeat business. We do a good job and the client will call us back.....

> [.....the client before awarding a project. But he doesn't like you, he might respect you technically, but if he doesn't like you he is not going to enjoy that interaction - he's not going to be very pleased or disposed to awarding that project.....So he's making his own judgment as to whether he likes you as well as if he technically trusts you. (N: So that judgment is based on your past record and..)...and how well he knows you. It comes back to the same point again - it is very very difficult to sell yourself to a client who doesn't know you .....[the mode decision] Starts much earlier than you know there will be business there in a year or two. So right now you start building the relationships and the contacts so that when business comes you are in a good position rather than at that time not knowing anyone and not knowing anything......

The following quote illustrates that in addition to the expertise and skills held by individual staff members in a firm, their personal relationships and connections developed with potential clients and partners are a valuable asset for the firm.

> ....The whole idea of developing the new market place is that you have to develop relationships with potential clients. And it takes time. The guy in the middle east had connections existing as he had worked in that area. He is a partner in the firm now. He had connections existing so in the middle east we were in a position to go ahead and follow up with people he already knew. In China we did not know anybody so were starting on ground zero. And that very much over there is who you know - a friend of a friend of a friend. If you are a friend of somebody you are accepted, if you're a stranger they don't want to, whatever your credentials are, they don't want to know you. But if somebody says oh...I know him...he's OK, that's a good deal. So the employee who was born and grew up in Taiwan through his old school connections, from Taiwan started to leverage that.......

A staff member's contacts in the host country can influence the choice of that country and also the probability of exploring it as a market:

> ...I don't know about other consultants, but we are…actually, other consultants do the same. We sit back and decide that we are going to go into this other country. For example, right now we are going to try to go back into Ghana…. Now because of my association with the country, and because I know so many people who work there, the company feels that the time and effort required to go to Ghana, versus going to another country that they don't have any idea, know nothing. So what, it's unlikely that we will go to a country if we don't know anybody, anything, if we don't have any contacts, nothing...

Here is another example of the role of a relationship with another professional firm, such as an engineering firm and an architectural firm, in the home country:

> ….Our international work comes from our relationship with other people, such as architects and developers, basically in Canada. So if these other firms are getting involved in international projects, then we would be possibly part of that team and doing it…So the architect has the real relationship with the owner (final client). There are concerns like does the guy (final client) exist, does he really want to build a building, does he have the money. That kind of information is not easy to get especially when we are down here. So we rely a lot on the client and that happens when we have worked a lot together in the past and there's that trust [between us]…. We'd trust that they would carry our concerns to the owner. Similarly, if the architects trust that we would be looking out for their best interests in a job, they will hire us. So, a lot of relationship building in our business. You have to get repeat business. What's hard to do is the new clients because you have to build that relationship…

Some firms also emphasized relationship building within local business networks in the host country as a way of getting access to information about new projects.

To summarize, relationships of staff members and the firm as a whole with clients and business partners at the time of first entering a host country and those developed subsequently are important in the entry mode process. Also, relationships with clients and business partners in both the host and home countries are critical. **Client's preferences** emerged as central to many decisions the firm makes regarding entry into foreign markets. The following quote quite pointedly expresses that the client's needs are paramount:

> …But certainly what our competitors are doing and how they do it is factored into how we do things too and we certainly watch our competitors. We look to see where they are successful and how are they successful. We pay particular attention to what our clients are telling us. We need to pay more attention to what our clients tell as we need to do business with them than what our competitors are doing. That's the bottom line…

There are examples of a wide range of client's preferences in the data of which there are four that were consistently repeated. First, the client's need for interaction. The client perceives what he or she is buying not just in terms of the final product in the form of a design or a report but also the entire process of interaction during service delivery. Second, clients both current and potential may prefer a more visible commitment of the consulting firm in the host country that fulfills their perception of stability. Third, there is a preference for a physical presence and a certain form of physical presence of the firm in the host country. Fourth, clients may prefer another firm's expertise for a particular piece of the project.

Here are a few examples of different types of clients' demands and preferences:

> ….The clients often often want say the conceptual design team right there….. Now does that absolutely require us to be there –no, I mean with the electronic linkages these days – but there is still just a greater sense of comfort for most of our client to have the face to face contact….

> ….I've been told this by our clients that the reason that they prefer to work with somebody who has a let's say – invested position in Brazil as opposed to a non-invested position is because they feel that the company is more stable, is giving them the signal that they are going to be there for the longer haul. They don't want to work with somebody who is perceived to be a fly by night operator, you know just come and go….

> ....if you have an office there it raises your credibility with potential clients because clearly you are here to stay...And if you are not on the ground you'd have far less information available and make a far less relevant bid for the job... ... And without that level of contact often you are wasting your time bidding for a job which you really don't understand what the client wants.....the client too does have any feeling of trust and confidence in you...[if you are not physically present on the ground]...So having an office is a better way of doing business but obviously it is an expensive way...

> ...But usually they [clients] are much more pragmatic at that and they say...ok...we got these guys involved for their design skills but we'll be much more comfortable with these people who are indigenous or who've been working here for years and years and so what they say is that Ok I would like you to form some sort of association with these people to deliver the project. And that's when the negotiation starts. Now that....

> ...The client decided for some unknown reason that they would have a completely different set of people looking after the project on site. So our contract and that of our local associate finished with the delivery of the drawings. And then the actual implementation of the project was taken over by somebody else...

Other preferences of clients that appear in the data, at a relatively lesser frequency, include their preference for the expertise of a specific office of the firm because they perceive a quality differential across offices. Clients may also have specific preferences for what local firms the international consulting firm partnered with and what kind of legal arrangement they formed. For example,

> ...Rarely do we do a joint venture. To do a joint venture you have to know a lot about your partner and have a lot of confidence in him because you are essentially becoming liable for his work in a joint venture. Whereas in an association or a subcontractor role you are not liable for his work...In Israel we entered into a joint venture as it was a way of appearing stronger to the client. We felt the client wanted to see an equal relationship between an Israeli partner and a US partner. If we'd been a subcontractor there would have been concern that we did not enough control and if we'd been the prime contractor there would be the concern if we'll give the Israeli firm enough work or responsibility. So although this joint venture was not required by any govt. regulation, it is a choice on our behalf because we felt it was the best ability to get the job...

Sometimes the client base in a country may be very heterogeneous with different clients preferring different local firms as business partners for the international consulting firm. This may prevent a firm from entering into longer-term arrangements with any one firm. The following quote illustrates how the nature of the entire client base in a host country can dictate the decision about the choice of legal form:

> ...First of there are more clients in Ireland and Puerto Rico than in Brazil for example. There is a broader base of clients who have no one particular shall we say locally preferred contractors. They many locally preferred contractors. So in order for us to be able to satisfy the greatest majority of our clients needs we really need to be organized and structured such that we don't form exclusive arrangements in Ireland... what has dictated not taking a ownership position with any one company or even an office is because of the broader base of clients who have expressed an interest in working with a broader group of partners in that countries...

In summary, the client is central in the engineering consulting business. They may mold the service delivery process by demanding more interaction or a more visible commitment in the host country, and proof of a stable presence. They may also be very selective about who the firm associates with and who performs different pieces of a project.

Project specific issues Given the centrality of project by project activity in engineering consulting and that each project has its own nuances, the data points to the different types of issues at the project level that have implications for the entry mode process decision. There are two levels at which these issues apply, at the level of individual projects and at the level of a series of projects taken together. At the project level, the process of delivery of service involves different stages and usually, a team of firms is involved to execute the project. The phases of an engineering consulting project typically consist of prebidding, feasibility studies, conceptual designs, detailed engineering, and supervision of construction. Each stage entails different demands with respect to, for example, the degree of face to face client-consultant interaction required. Issues such as the need for continuous interaction with the client depending on the nature of work involved during different phases, prior history of working for the client, the location of the expertise to do the work are some of the factors that dictate the choice of location where the actual work for the different stages is performed. In other words, a combination of factors may decide 'where' the design and detailed engineering are done, and this will impact the entry mode process, especially the decision with respect to the type of physical presence.

> ...Well, we have enough offices and we have enormous design capabilities so we could do anything we wanted here [in the home county] *if* the client would allow it...But there is a big emphasis now in our business on technology transfer. There is a huge emphasis now so the growing trend is clearly to do the design work – all of the work on site...

No matter what the legal status of the firm in a host country the methodology of doing the work is more a function of where the expertise is situated:

> ...Because a govt. regulation in Malaysia we could not register there as a firm. [If the govt. regulation was not there]...well we would have formed – contractually we would have formed something different but in the end result I think the methodology would have stayed the same that we would've tried to do preliminary work or the front end work in NY where the expertise in the advanced building systems lies in this office and we would have used local engineers as liaison and in some cases to do some final production either under our direct supervision or under a separate contract to the owner (client)......

In addition to demands entailed in specific phases of a project, the second dimension of project specific issues is how the work is organized and coordinated among the firms involved in each project. The interviewees refer to this as "how we work", "the logistics of work", "the methodology of work" and so on. Usually there is a team of firms involved on a project and often these firms may be geographically quite dispersed. Different modes of communication and interaction are used during the process of executing the project and putting all the pieces together. It is not just the client-consultant interaction that is important but also the interaction with the other firms on the team to actually execute the whole project. For example,

> ....[but in this kind of thing, if the competition comes in right at this stage, they want the best price and best technical expertise?...] I would say, yes but no. The dollar signs and the technical issues are one thing, but the other important half is pulling the team together....if you can't talk and communicate with your team, things are just not going to get done......we're a part of a larger team like a cog in the wheel of a whole machine. But you have to communicate....

Here is an example of the decision about the location of an office being influenced by the availability of enough collaborators on projects at the same location:

> ....So you see if you decided to set up an office in let's say, let's pick the US, let's say we decide to open an office in Seattle. The only reason we would do that is if we felt that there were enough collaborators in Seattle - architects and other professionals with whom we could develop a long standing relationship to do some good projects together. That would be the reasoning to move and set up an office in Seattle. The reasoning would not be that Microsoft (client) is in Seattle and we want to work for them....

The effect of decisions made at the level of specific projects is likely to trickle down to the projects that follow. As a firm goes from project to project to project the cumulative effect may be in establishing a history of relationship with business partners and clients, establishing a reputation, and developing other business contacts in the host country and in the region. These factors are likely to enhance the degree of presence in a country. For example,

> ....I say that this [notion of a permanent presence] is something that dawns over time. And typically if you've already got some projects in a country and you've got some relationships in a country then you've got a pretty good sense that you could go there.....

Also, the data suggests that the size or scale of a project in hand is likely to affect various aspects of the entry mode decision. The scale or size of a project may affect the decision regarding the form of physical presence.

> ...Our thinking is that once we get a project that is large enough to justify it we will create our own office there...

> ...Now there you can see that the decision was related to a very specific project, as it was a major commission in another country and therefore it provided a spring board for us to actually set up an organization there...

> ....In our kind of business it is very expensive to establish an office to start with. Business projects are small, the competition is fierce. Most of our offices started as one-man offices. Like in England we started a one-man operation - there is only one and nobody else, not even a secretary. He is doing everything... If you are doing a 20,000 dollar project it's not cost effective to set up an office. But if you're doing a 5 million-dollar contract, it behooves you to have a local office - to have the local relationship on a continual basis...

To summarize, the organization of activities at the project level is critical to facilitate smooth communication and coordination with the client as well as other members of the team of firms involved in the project. Decisions made at a project level are likely to have repercussions for subsequent projects as relationships and reputation accumulate as a firm moves from project to project and affect future project opportunities. Project level decisions are, therefore, critical for the entry mode process decisions.

Firm specific characteristics Some of the firm specific factors that are reflected in the data as having significant implications for the entry mode process include the following: a firm's areas of specialization; the range of services performed on a project; the size of the firm; extent of globalization of a firm in terms of an existing network of offices and the number of countries where it is doing projects; and any deliberate strategy the firm might have, e.g., not adopting a certain type of legal arrangement ever. Here is a quote that illustrates that the size of a firm will affect the types of offices, that is full-fledged engineering offices versus smaller outfits it can have globally:

> ....If we had a fifty or a hundred-person office in Israel we'd probably be self-sufficient. It does happen - that's what the big companies do. The companies that are many thousands of people. They have a hundred people in Hong Kong, hundred people in Sydney, hundred people in Singapore, hundred people in Manila....

The following quote is an example of specialization and size affecting the way the firm enters a country:

> ....Our international work comes from our relationships with other people (such as architects and developers) basically in Canada. So if we have these other people getting international work then we would possibly be a part of that team..Probably fundamentally different from some of the other people [firms] you've talked to. I think you've talked to "large" civil engineering firms and firms like that. Now, we certainly don't go in and say, we've going to do this big project let us in here. That's not just what we do and wouldn't stand a chance of making money any way....

In sum, the key firm specific issues extracted from the data are firm size, area of specialization, range of services performed and the degree of internationalization based on number of world-wide offices and the number of countries of operation.

Conceptualization of relationships between variables

The process of analysis did not just help *identify* factors that appear to impact the different dimensions of the entry mode process but also provide a preliminary sense of the nature or types of relationships between variables. Miles & Huberman (1984) point out that just having and classifying conceptual categories is not enough, the researcher has to move to a second, perhaps, more explanatory level of analysis....”...we need to understand the patterns, the recurrences, the whys....” (p.67). Through the entire analysis the emerging patterns of relationships were observed between the entry mode process dimensions and the different determinants of the decisions as well as the relationships among the different determinants and consequently, their combined effect on the entry mode process decisions. It was possible to draw from the data a theoretical rationale for how and why certain variables are related.

These observations were documented in memos. Memos were not just used to report data but to theorize about the relationships between concepts reflected in specific segments of the data. Memos were prepared for each firm or case in the sample so it was possible to detect, across the entire sample, any regularities or patterns of interconnected concepts and relationships. These relationships between variables are embedded in the revised entry mode process decision framework illustrated on page 147. Here are a few examples of relationships between the independent and dependent variables. With regards to global economies, an existing network of offices is likely to impact the physical presence decision. Preexisting offices, especially in the region, may reduce the need to set up another office in the host country. In terms of the role of relationships, relationships built with the client and business partners as the firm goes from project to project is likely to increase the degree of presence in the host country. As far as environmental factors are concerned, prior familiarity with a host country may encourage a market focus. An example of the role of transaction costs factors would be that difficulty in copying knowledge held at the level of the team and organization will mitigate the threat of opportunism from business partners, thereby introducing flexibility in choice of legal form. Again, these are only a few examples of the relationships between the independent and dependent variables that exemplify the dynamics of the revised entry mode decision framework.

To reiterate, the revised model of entry mode decisions is an outcome of the starting provisional conceptual framework and the theoretical concepts developed inductively in this phase of research.

Credibility and Dependability

Traditional notions of reliability and validity, in the sense they are used in quantitative methods, are not directly applicable to qualitative approaches. However, there are other criteria more appropriate in the realm of qualitative analysis that should be met for the research to be accepted as trustworthy. Lincoln and Guba (1985) propose four criteria for building trustworthiness. These include credibility (paralleling internal validity), dependability (paralleling reliability), and confirmability (paralleling objectivity), transferability (paralleling external validity), (Denzin &

Lincoln, 1994). I utilize Lincoln & Guba's (1985) criteria as a frame of reference to outline the steps I took to maximize credibility, dependability, and objectivity of my research inquiry. The following paragraphs describe what each of these criteria mean and how they are addressed in the study.

Credibility. Credibility is about whether or not the findings of a study are an authentic portrait of what we are looking at (Miles & Huberman, 1994). It is a degree of confidence in the "truth" that the findings of an inquiry have for the subjects with which - and the context within which - the inquiry was carried out (Lincoln & Guba, 1985, p.290). The descriptions should be a true reflection of what was observed. Credibility can be enhanced by good quality data and the process that is followed before committing to any patterns or findings. I took numerous steps through out the process of data collection and analysis to ensure credibility.

At the time of collecting data three things were borne in mind. First, I ensured that the sample for the study was representative in terms of the purpose of the study. Drawing inferences from a non-representative sample can undermine the validity of a study. The firms selected were appropriate for the research question, that is, firms that were offering engineering consulting services and were actively involved in making mode of entry decisions. At the same time, variation was built into the sample in terms of covering a wide range of engineering specializations and degree of international experience. Such variation was important to capture the broadest range of information and prevent making inferences that might be too particularistic (Lincoln & Guba, 1985). In addition, I carefully identified the person to be interviewed in each firm on the basis of hands on engineering experience and involvement in international entry decisions. I tried to avoid talking to only CEOs across all the companies, although, this was not entirely in my control. Prior interviewing experience in a few of these firms suggested that with CEOs it becomes harder to discriminate between "what is" and "what they would like it to be". Second, during the interview process, I was cognizant of certain "researcher effects" that can reduce validity (Miles & Huberman, 1994). Caution was exercised to avoid putting ideas into the minds of interviewees too early in the interview process. I guarded against sliding in my own biases during the interview to avoid communicating a covert attempt to seek confirmation. Third, I did not pre-decide the number of interviews. The interviews continued till I felt the need to fill certain gaps and until a point of redundancy of information was reached. Premature closure of an investigation can cause the researcher to embrace one interpretation too soon, which is likely to result in inappropriate hypotheses (Erlandson, Harris, Skipper, & Allen, 1993). Moreover, continued data gathering reduces distortions arising from misinformation introduced deliberately or inadvertently by interviewees.

The process of data analysis involved several steps that ensured credibility of findings. First and foremost, I documented both confirming and disconfirming evidence in the data. Looking for rival explanations can actually help better understand and strengthen the basic finding (Miles & Huberman, 1994). For example, the reduced role of opportunism in entry mode decisions came as a real surprise in this study. Since, this contradicted existing theory, it was critical to look for all the disconfirming instances in the data before drawing any conclusions. The same process was followed for other crucial conceptual categories. In developing the list of categories, one list was specifically designated as information that demonstrates information "contrary" to emerging themes.

Validity was also ensured by looking carefully at the *context* in which a particular theoretical concept or issue was brought up in the interviews. For example, the concept of teams was brought up in the context of teams of staff internal to the organization or in the context of teaming with other firms to do a project. The difference is clearly important as these capture different constructs.

Dependability. A research inquiry is considered dependable if it convinces the audience that if it were replicated with the same or similar respondents in a similar context, its findings would be repeated (Lincoln & Guba, 1985). The main concern here is whether the process of the study is consistent, reasonably stable over time and across researchers and methods (Miles & Huberman,1994). Within the context of a qualitative study, the test of dependability would be that others should be able to arrive at the same conclusions as did the researcher. I adopted a number of steps to maximize dependability of this study. As discussed earlier, I used a semi-structured interview schedule with questions to navigate the interview while allowing the interviewees the freedom to tell their story unencumbered. I made sure that the questions I asked were clear and were understood in the same sense by interviewees. The questions relating to various theoretical issues were asked in the same way and at the same stages of the interview more or less.

The one thing that I was most particular about in the entire study was to document the whole process of inquiry. Erlandson et al. (1993) refer to this as a dependability audit which provides a running account of the processes by which the study was conducted. I prepared notes after each interview which helped seek further insight on some issues in subsequent interviews. During the analysis stage, Nud*ist itself served as a very good documentation system. The whole process of creating and revising conceptual categorizations were documented in memos. Memos are an equivalent of what Lincoln & Guba (1985) call a reflexive journal that provides information about a researcher's logistics, insights and methodological decisions. Changes occurred in the process of analysis as new issues were revealed about the entry mode construct, at which point I reorganized the nodes firm-wise. All of the changes and the rationale for them are recorded in memos. In other words, any shifts and variabilities that can be ascribed to new insights are well documented. Descriptions of the different stages of analysis and the process of creating and recreating the hierarchy of conceptual coding can be used by others to make their own sense of the data.

Confirmability. Objectivity or confirmability refers to the degree to which a study's findings are a product of the focus of its inquiry and not the biases of the researcher (Lincoln & Guba, 1985). In a qualitative study, the methodology cannot be separated from the researcher. Thus, the traditional notion of insulating observations from the biases of the researcher does not apply here. The emphasis is on trust in the "confirmability" of data themselves (Erlandson, 1993). I was aware of the potential, implicitly or explicitly, of introducing my biases and perspectives in the interviews. This could stem from my familiarity with the literature and a strong existing theoretical framework for entry mode decisions. At the same time, one of the most important motivations to do the qualitative study was to seek new insights to enhance my understanding of entry mode decisions for a relatively under researched industry. I went into the field, therefore, with a mind-set to discover and keep my personal perspective from confounding the inquiry. Most of the steps taken to ensure credibility and dependability also enhance objectivity of a research enquiry. Documenting the actual sequence of data collection and analysis is key to establishing objectivity. Reporting all processes that were used in the study can enable a reviewer to determine if the interpretations and conclusions can be traced back to their sources and if they are supported by the inquiry.

Overall, an explicit and thorough description of the qualitative analysis procedure is central in portraying the research as credible, dependable, and objective.

Summary of Phase I

This section summarizes what was achieved in the first phase of the study and what implications it had theoretically and methodologically for the second phase of the research. An in-depth analysis of the interview data provided a fairly comprehensive understanding of the nature of the engineering consulting service. The study clearly reflected that the one core feature of the engineering consulting industry that has ramifications for the way the firms organize their work and for the way they conduct their international operations is the project by project nature of engineering consulting. This was a stepping stone towards then understanding the nature of international operations of these firms. This phase of the research completed the process of building the conceptual framework for the study. It facilitated the addition of new concepts, modification and expansion of existing concepts and a preliminary conceptualization of relationships between concepts. The main highlight of this research phase is the reconceptualization of the entry mode decision as a process and as a multidimensional construct. This is a key theoretical contribution to generating an overseas entry mode decision model for a professional service industry.

The study also contributed theoretically in identifying factors affecting the entry mode process decision and in conceptualizing relationships between these factors and the different dimensions of the entry mode process. It also provides a preliminary sense of how the factors interact to affect the final decision. Most importantly, it explicated the meaning of the different PSF characteristics in the context of the engineering consulting service. It provided some insight on the relationship between the PSF characteristics and the different aspects of the entry mode process. Particularly significant are the observations about the relationship between PSF characteristics and transaction cost factors.

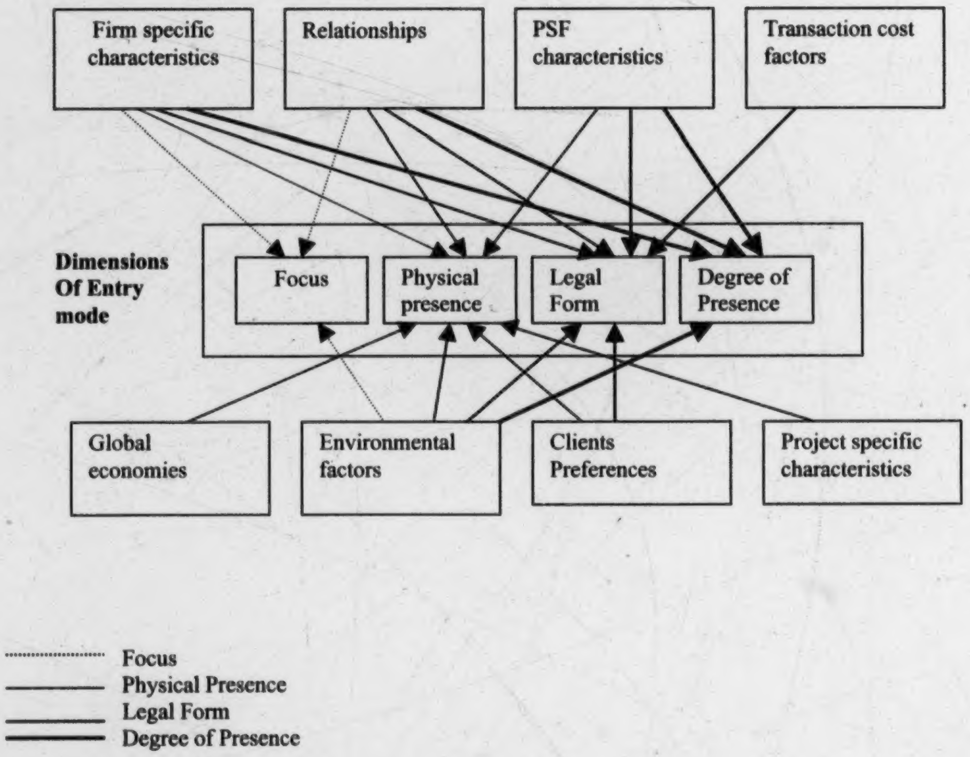
The new factors or determinants of the entry mode decision identified and included in the starting conceptual framework were client's preferences, contacts and relationships, project specific characteristics, and firm specific characteristics. Factors that were further elaborated and adapted to the nature of engineering consulting were global strategic variables, country-specific factors, professional service characteristics, and transaction cost issues. Observations about the types of knowledge or rather the nature of what these firms sell are one of the most critical highlights of this phase of the research.

The processual nature of entry into a country led to re-examining the methodology for the next phase of the study. The purpose of the second phase of the study is to establish more systematically the observations made in the first phase of the study for a larger sample of firms. The original research design for the study proposed a large sample mail survey of North American engineering consulting firms. However, the processual nature of the mode of entry decision construct as well as the complexity of the issues determining the decision unravelled in the first phase made it necessary to rethink the appropriateness of a mail survey. The abstract nature of some of the issues would call the validity of responses into question. The survey instrument itself would be cumbersome and difficult for managers to fill out reducing the chances of a reasonable response rate. An alternative method that appeared more suitable was to use structured interviews in combination with open-ended questions in a face to face situation. This would allow the interviewees to explain their responses within the context of their experiences. This would lend more richness to the data, which would assist in the interpretation of the statistical results.

The methodology for this research was not constrained by any specific philosophy of science tradition or paradigm. But it was shaped by the nature of the questions that needed to be addressed. Hinings (1997), in a discussion on the possibility of a more fruitful dialogue between the qualitative and quantitative approaches rather than seeing them as mutually exclusive alternatives, comments: "This is especially true if we see methods as tools to increase understanding rather than as derived from a deeper philosophical position about the nature of our subject (p. 495).....the issue is primarily one of which "tool" will best do the research task of answering our analytical questions", (p. 501). At the two stages of this research, the choice of research tools was made based on the questions that required to be asked. A combination of semi to unstructured interviews and more structured interviews again with an open-ended element seemed to be appropriate to bring breadth, depth and rigor to the study. This led to the next step of constructing an interview schedule based on the observations in the first phase of the study. The next chapter deals with the building of the interview schedule and the methodology for the second phase of the research.

Figure 3-1

ENTRY MODE PROCESS DECISION FRAMEWORK AFTER PHASE I


Firm specific characteristics
Relationships
PSF characteristics
Transaction cost factors
Dimensions Of Entry mode
Focus
Physical presence
Legal Form
Degree of Presence
Global economies
Environmental factors
Clients Preferences
Project specific characteristics
Focus
Physical Presence
Legal Form
Degree of Presence

CHAPTER 4

PHASE II: METHODOLOGY

The first phase of the research was an important step in the process of building an entry mode decision framework for engineering consulting firms and provided critical direction for the second phase of the study. It led to several modifications of the starting conceptual framework. The modifications included a reconceptualization of the entry mode construct, addition of new issues salient to entry mode decisions of this industry, and expansion of existing concepts in the starting conceptual framework. The most significant outcome of the research was a reconceptualization of the entry mode decision as an entry mode *process* decision and as a multidimensional construct.

The first phase was critical for the second part of the study in three ways. First, it provided a conceptual framework for further exploration that was much more closely tailored to the entry mode decisions of engineering consulting firms. It provided direction for further clarification as well as confirmation of relationships. Second, the processual nature of the entry mode construct and the somewhat abstract nature of issues surrounding entry mode decisions of these firms prompted me to rethink the methodology for the second phase discussed in the next section. Third, the observations from the first phase were used as a foundation for building a relevant and comprehensive interview schedule. It helped operationalize difficult concepts such as PSF characteristics and the nature of knowledge factors.

In the following sections, I discuss the second phase of the study including the rationale for the methodology, sampling and data collection, and the description of measures of various concepts used in the statistical analysis of data.

Methodology

In the second phase of the study, I used a combination of a qualitative and quantitative methodology. Originally, the methodology of the study was to have centered on a large sample mail survey with the intent of hypothesis testing. The first phase of the study generated an expanded framework providing a clearer understanding of entry mode decisions in a professional services industry. However, this was by no means a clean and tight model with explicit relationships between constructs that would be amenable to hypothesis testing. The first phase of the study revealed the complexities involved in arriving at an entry mode decision model for the engineering consulting industry. These complexities are attributed to a number of reasons.

First, it is difficult to adapt a model originally built to investigate the choice of entry mode as a static decision to a model that conceptualizes the same decision as a process. In the first case, factors are conceptualized as impacting a single decision point while in the process model the factors may be impacting different points and dimensions of the process. Second, the mode of entry process is not one isolated process but an intermeshing of entry at two levels – at the project level and the country level. Third, as was clearly observed in the first phase and confirmed in the second phase, the choice of mode decision in the engineering consulting industry is more than just a choice of legal form. It involves other dimensions such as the length of stay in the country, focus, and physical presence. This certainly creates the onerous task of deciphering how different factors impact the different aspects of the entry mode process decision. The factors impact different dimensions of the process, different levels of entry, and further, may be more relevant at certain stages of the process than at others. Fourth, the measures and variable definitions are not refined and well tested.

In the light of these issues, it made sense in the second phase to explore these relationships further and more systematically. There was room for both confirmation and further clarification of relationships. The need for further exploration coupled with the abstract nature of issues involved made a large sample mail survey impossible. Structured interviews interspersed with open-ended questions conducted in a face to face situation were most appropriate. A more structured form of enquiry appeared suitable as it would allow me to organize the observations or findings from the first qualitative phase in the form of a structured interview schedule. The quantitative component would help examine the relationships more systematically and thus, provide a different cut at the data. Including a qualitative unstructured component would facilitate discussion providing the interviewees the opportunity to situate their responses in the context of their experiences as well as allowing me to clarify the meaning and intent of my questions. Therefore, the administration of a structured questionnaire in a face to face situation helped ensure, to a great extent, the validity and reliability of the study.

To summarize, the second phase of the study continued to be in the realm of *exploration* using a combined quantitative-qualitative approach. The quantitative data collected through a structured interview schedule was statistically analyzed to facilitate systematic exploration of the relationships. The qualitative component of the method lent itself to the interpretation of statistical results. It helped make sense of the relationships in the context of the specific firms and the industry as a whole.

In the following section, the process of building the interview schedule is discussed.

Building an Interview Schedule and Interviewing

The process of building the interview schedule was a long and iterative process of planning, reading, and designing. The range of factors as well as their complexity made it fairly challenging to strike a fine balance between completeness and conciseness. Three major steps were involved in designing the schedule. First, decisions were made about the content of the interview schedule. Second, questions were designed following guidelines that would maximize both reliability and validity of measures. Third, the format of the whole interview schedule was finalized to facilitate smooth flowing interviews. Each of these steps is elaborated in the following sections.

Deciding on content of interview schedule

The objectives of research are said to be met when the interview schedule or questionnaire is comprehensive and does not exclude issues that are critical to the research question (Rossi, Wright, and Anderson, 1983). This implies that deciding the content is critical in designing an interview schedule. A strong theoretical framework at the start of my study along with the results of the first phase of the study established the boundaries for the issues to be addressed in the questionnaire. Decisions had to be made about what issues to include and how thoroughly to sample each issue in the questionnaire (Oppenheim, 1966). Qualitative analyses of the first phase simplified the process of prioritizing factors. Nud*ist reports on each conceptual category and a case-wise listing of factors from the first phase provided frequency counts for various factors. The issues were arranged in order of importance, that is, those that consistently appeared across all cases, those that were important in at least half the cases, those that emerged in 20-30% of the cases, and those that were clearly outliers. The dependent variable was given top priority by including enough questions to capture every aspect of the entry mode process. This was important because the entry mode construct was reconceptualized in the first phase and needed further investigation and confirmation. The exercise of prioritizing was more difficult for the independent variables. Factors that were clearly dominant in the analysis of the first phase and those that were rather abstract were devoted more questions. Others that seemed less important or their role unclear were not excluded but sampled briefly.

Selecting items for each construct. After deciding what constructs to include in the questionnaire, the next step was to select items that represented each construct. This was a critical step in creating reliable and valid scales. Many of the constructs were multidimensional or comprised multiple variables. For example, PSF characteristics include reputation, intangibility, client consultant interaction, customization, and knowledge. Extensive data analyses in the first phase made it relatively easier to identify the different dimensions. Nud*ist reports from the first phase were very useful to identify statements representing each dimension of a construct. When selecting items that capture a construct, it is important to ensure construct validity. Rossi et al. (1983) explain that a particular construct intends to measure a "domain of meaning" and content validity refers to the degree to which one has representatively sampled from that domain of meaning. In order to ensure that all facets of the domain of meaning for any given construct are sampled, I searched the Nud*ist report pertaining to a particular concept to determine how different interviewees had talked about the same concept. Here is an illustration of the process I followed. The first phase of the study revealed two dimensions of reputation – reputation for technical expertise and reputation for relationship building skills. I identified all statements in the interviews about both these dimensions of reputation. I then selected statements that seemed to be most representative of the different understandings of these dimensions. This was a way of ensuring complete coverage of meanings associated with the construct (Rossi et al., 1983). The next section elucidates the process of designing questions.

Designing questions

After the identification of the constructs and the variables capturing those constructs, it was important to frame questions that would be good measures of the constructs and also be amenable to further statistical analysis. Designing questions involved a series of steps and decisions. First, a decision about form of questions was made, which is affected by whether the data is collected in a nominal form or an ordinal form. The main task here was deciding what kind of measurement was desired and choosing an appropriate measurement scale. Second, the questions had to be written in a way that they would produce good measures. Third, open- ended questions were included in the schedule. The critical decisions related to open-ended questions were about where they were required and how many to include. I describe each of these steps below.

Measurement. Data may be collected in a nominal form or an ordinal form (Fowler, 1993). Nominal data requires people or events to be sorted in unordered categories.

Ordinal data requires that people or events be placed in ordered categories along a single dimension, for example, rating the importance of something from not important to very important. I had both kinds of questions in my interview schedule (Appendix D). For most of the factual questions the interviewees were asked to choose between binary categories, such as "Yes" or "No" or asked to provide a number. Examples of nominal data are firm size, number of countries of operation, and whether or not the firm had a permanent office in the host country. A majority of the questions in the interview schedule were targeted at subjective states, which were captured with ordinal data. For example, asking interviewees to assess the degree of intangibility generated ordinal data. Ordinal data requires that the respondents be provided response categories or alternatives on a scale. I decided to use Likert scales, the most commonly used ordinal scale in the social sciences.

The basic assumptions of a Likert scale were appropriate for the multidimensional constructs in my interview schedule. First, it assumes that there is a continuous underlying attitude dimension and that each item representing a construct is monotonically related to that continuum (Rossi et al., 1983). Thus, a more favorable attitude should produce a higher expected score on any item. Second, it assumes that the sum of the item scores is monotonically related to the attitude or perception. That is, a higher total score indicates a more favorable attitude. Usually, the sum is a linear function of the individual items equally weighted.

I decided to use a five-point scale throughout the questionnaire for ordinal questions. Five categories are most commonly used on a Likert scale (Rossi et al., 1983). Although, some studies make even finer distinctions and use 7 point scales, there is a limit to how precisely respondents can discriminate between the ordered categories. Fowler (1993) points out that when the number of categories exceeds the respondents' abilities to discriminate their feelings, numerous categories simply produce unreliable "noise". The pilot interviews confirmed that five categories were adequate for the type of questions and sufficiently captured the real variation among interviewees.

Writing questions. The process of writing questions began from the point of identifying the variables to be included in the questionnaire. In addition to the decisions about an appropriate scale, there are other things to be borne in mind when writing questions. First, it is important to avoid double-barreled questions which are flawed in that they ask for two different things in one question (Fowler, 1993). Second, it is important to keep the vocabulary simple in wording the questions. Third, the questions should not be complex and difficult to understand because they will only generate unreliable responses. Fourth, lengthy questions should be avoided (Payne, 1951; Rossi et al., 1983). I used these caveats as guidelines for framing the questions. However, writing simple, short, understandable questions to capture complex constructs was quite onerous and required several iterations and revisions. In many cases, I directly converted quotes from the first phase interviews into statements. I made sure the statements were clear, short and unambiguous, conveying the same thought as expressed in the quote. A pretest of the interview schedule with Ph.D. students and a couple of faculty members helped immensely in articulating and simplifying the questions.

Use of open-ended questions. Open ended questions were a critical component of the interview schedule. The decision to do face to face interviews was primarily driven by the need to seek further clarification on factors and relationships that were not so clear after the first phase of the study. This meant keeping room for open-ended discussion. Open questions have a number of advantages. First, they allow interviewees to answer in their own frames of reference uninfluenced by any specific alternatives (Rossi et al., 1983). Second, they provide interviewees the opportunity to qualify their responses to closed ended or structured questions with examples. Both of these advantages were compatible with what I meant to achieve through these face to face interviews. That is, to clarify issues that were fuzzy and contextualize the structured responses to facilitate better understanding. The open ended questions were not intended to be codified and quantified later but to be used to enhance understanding of the responses to structured questions and capture what was not covered in those questions. Mostly, a combination of closed and open-ended questions was used. This was done by either adding an "other" category or using probes with specific items during the interview. The first phase analysis was used as a pointer to issues that clearly needed open ended questions. This short listing was necessary to confine the interview to a reasonable time and avoid repetitious or even irrelevant information.

Reliability and Validity of Questions

Designing good questions is equivalent to designing good measures. A prerequisite of a good measure is to maximize reliability and validity of questions. Reliability requires that the questions provide consistent measures in comparable situations. Validity means that the questions measure what they are intended to measure (Fowler, 1993).

Reliability of questions. An important element in ensuring reliability is that the questions should mean the same thing to all respondents. This can be difficult if some words used in the questions are not understood universally. Even more problematic are the use of terms and words that have multiple meanings (Fowler, 1992). This was a challenge in the context of this questionnaire because it involved many abstract terms such as "intangibility", "reputation", "types of knowledge", and "opportunism". These are words that cannot be understood universally and can be interpreted in multiple ways. Fortunately, in a face to face situation I had the opportunity to make sure that the interviewees understood these rather complex terms similarly. Through face to face interviews it is easier to probe incomplete answers for more clarity. Face to face conversations are more transparent in reflecting if the interviewees are understanding the questions in the same sense and thus ensuring that the responses are comparable. For purposes of clarification, I used standard examples for each term and made sure they were consistently worded across all the interviews. The examples were selected from the interview data of the first phase of the study, that is, these were coming from people in the profession and expressed in their language.

Following some of the guidelines discussed earlier in designing questions also enhances the quality of questions as reliable measures. For example, avoiding long and ambiguous questions, avoiding double-barreled questions, and using simple vocabulary can be helpful.

Validity of questions. Validity, to a great extent, was ensured by the fact that this questionnaire drew heavily on interviews from the first phase of the study. Those interviews were specifically geared to understanding and exploring what some of the concepts, especially complex issues such as PSF characteristics and the nature of knowledge meant in the context of engineering consulting. It is important to note that factual questions and subjective questions involve different validity concerns and these were dealt with accordingly.

Validity of factual questions is relatively easier to establish because these questions measure facts or objectively measurable events (Fowler, 1993). Examples of factual questions in my interview schedule are about the history of the firm, size, revenue, number of offices, countries of operation, the number of projects done in a host country, and the type of office set up. Despite being factual in nature, some questions were tricky because of the nature of the industry. For example, in a project based business total revenue is subject to a lot of fluctuation depending on the projects in hand at any time. The idea of current revenue does not make sense in this scenario. Similar problems were experienced with international revenue and the number of countries of operation. Therefore, the questions had to be very carefully framed so they would be consistently understood by all respondents (Fowler, 1993). For example, they were asked for the average revenue over the past five years rather than current revenue. Face to face interviews made it easier to ensure that the questions are understood in the same sense. I also used other sources such as company brochures, company web-sites, and the engineering consulting directories to supplement the interviews for factual data, especially data on the size of firms, number of worldwide offices, and the number of countries of operation.

Validity of subjective questions is more difficult to establish because there is no objective way of validating the answers. Validity of a subjective measure can be estimated only by the extent to which answers are associated in expected ways with answers to other questions (Turner & Martin, 1984). Examples of subjective measures in the interview schedule include questions about the role of reputation, intangibility, client-consultant interaction, and the threat of opportunism. But for the subjective questions there is no independent direct measure possible, that is, there is no objective way of validating the answers.

I followed the steps suggested by Fowler (1993) to improve the validity of subjective measures. First, as mentioned earlier the questions were designed to be as reliable as possible. Second, the unidimensionality and monotonicity of the response alternatives on the measurement scale were ensured. Response alternatives are unidimensional when they deal with only one issue and are monotonic when presented in order (Fowler, 1993). Face to face interviews went a long way in maximizing validity of subjective questions and here is a perfect illustration to support this. When interviewees were asked to rate, "the risk of business partners walking away with the firm's knowledge", it became apparent that the statement was being interpreted by most interviewees as "people walking out of the door or being hired away". This was noticed in the very early stages of the interview process. This shed light on very useful information that losing personnel is a real concern for these firms and how knowledge was automatically associated with "individuals" but "copying" knowledge was perceived as difficult. This clearly was a validity problem as I intended to measure walking away with knowledge as in copying but not the risk of people walking out of the door and thus, taking the knowledge with them. These are certainly related yet different constructs. This was best expressed by one of the interviewees…"…knowledge is easy to steal but not copy….." In other words, it is easy to hire away people but difficult otherwise to copy or take away knowledge from the firm. This issue or validity problem would have gone unnoticed in a mail questionnaire where there is no opportunity to probe for further clarification. It may have manifested itself as unexpected relationships of the response to this question with answers to other questions but it would have been difficult to put a finger on the problem.

Format of the interview schedule

Three decisions were important for the over all format of the interview schedule. One, whether the questionnaire should open with factual questions or subjective questions; two, the build-up of question sequences and the order of questions; three, for each variable the order of questions within each question sequence (Oppenheim, 1966). Factual questions were put up front in the interview schedule for two reasons. First, information about firm specific characteristics and the historical background provided the context for the more subjective questions. Second, starting with the simpler factual questions is a good way of increasing the comfort level of the interviewee and easing the way to more thought provoking perceptual questions. This was especially critical for this interview schedule where many of the issues raised were quite abstract.

Questions pertaining to the dependent variable (four dimensions of the entry mode process) were placed immediately after the factual questions but before the independent variables (determinants of entry mode). This order was logical because the purpose was to understand the role of different factors in the four aspects of entry mode. Information about the firm's entry mode decisions was critical to be able to make any meaningful connection to the independent variables explaining the choices the firm made. Pilot interviews were very useful in improving the format of the interview schedule.

Pilot Interviews

Pilot interviews were conducted with Ph.D. colleagues, faculty, and a few engineering consulting firms. The pilot improved the quality of questions substantially in a number of ways. It helped reframe and simplify questions that were ambiguous and long-winded. It also helped identify double-barreled questions. The pilot interviews confirmed that a five-category scale was adequate. Regarding the format of the whole interview schedule, the pilot made it possible to identify places where it was disconcerting for the interviewer to shift from one topic to another or to be asked to come back to an issue that had already been raised. Overall, the pilot helped improve the reliability and validity of the interview schedule and facilitate a smoother flowing interview.

The greatest challenge was to capture the entry mode 'process' and factors such as relationship building and reputation building that are important to track over time. In some ways, this interview schedule resembled an in-depth case study of an entry into a specific host country done in a very structured and systematic manner. The interview schedule is presented in Appendix D. In the following section, sampling and data collection procedures for the second phase of the study are discussed.

Sampling and Data Collection

The research site for the second phase of the study was the engineering consulting industry based in Alberta, Canada. The first phase of the study, that included firms from the US and Canada, suggested that there was no major difference in the nature of engineering consulting in the two countries and in the way these firms conducted international activity. Therefore, focusing on firms in Canada in the second phase would not bias the study and continue to represent of the North American international engineering consulting firms. A survey of the Directory of engineering consulting firms in Canada suggested that the population of engineering consulting firms in Alberta is representative of the engineering consulting industry in Canada, especially firms involved internationally. Calgary and Edmonton in Alberta have a high concentration of head offices of major engineering consulting firms working overseas. In addition, key international players based in the East, especially Toronto and Montreal, have major offices in Calgary and a few firms that are incorporated in the US also have offices there. Confining my sample to the population of engineering consulting firms located in Alberta did not jeopardize its representativeness, which is supported by some of the key international engineering firms of Canada that are in the sample. For example, Canada's two top global consulting engineering firms SNC Lavalin Inc.and AGRA Industries Ltd. Other Canadian firms that are in the sample and are listed by Engineering News Record in the top 100 international design firms in terms of foreign billings in 1994 include HA Simons Ltd. (35th), Golder Associates Ltd. (40th), and Acres International Ltd. (94th). As in the first phase of the study, firms that were primarily engaged in various disciplines of the engineering *consulting* *service* were of interest and all establishments in which construction was the main source of revenue were excluded.

A list of engineering consulting firms in Alberta involved in international work was compiled from several sources. The BOSS Directory of Consulting Engineers (1996) was used as the main source from where all firms licensed in Alberta were short-listed. The list was, however, dated especially in light of the recent trend towards consolidation and mergers among both smaller and larger Canadian engineering consulting firms. I supplemented this with the most recent membership directory of the Consulting Engineers of Alberta (CEA), a registered organization which currently represents over 70 Alberta consulting engineering firms. This list was not comprehensive either because membership of the CEA is voluntary. Moreover, it did not provide names of firms that are not registered in Alberta but have offices here. I therefore combined it with the list of consulting engineering firms provided in the Yellow Pages of Calgary and Edmonton. A Government of Canada web site called Strategis was also useful to complete the list of firms.

After identifying the population of engineering consulting firms in Alberta the next step was to short list those that were involved internationally. This information was available in the BOSS directory for firms listed in it and for some firms the company web sites were a useful source. For the remaining firms, I went through the Yellow pages and phoned the firms directly to inquire about their international involvement. A final list of 50-55 firms was compiled along with their dominant area of specialization and size in terms of number of staff. This was followed by initial phone calls to get the name and fax number of a contact in the firm who would be appropriate for the interview. A letter describing the research and requesting participation in the study was faxed to the person followed shortly by a phone call. A phone call after sending the letter provided the potential interviewee the opportunity to ask further questions and clarifications and confirm his or her willingness to participate in the study.

I targeted a sample of 30-40 firms which was driven by two factors. First, it was important for the sample to be large enough to ensure adequate statistical power of various statistical techniques that would be required for analyzing data and second, it was equally important for the sample size to be manageable to conduct in-person interviews. The response rate was very encouraging and the final sample for the study comprised 41 firms.

Description of sample

The firms included in the final sample was dictated by the willingness of firms to participate in the study. Although the sample was not randomly selected, an attempt was made to ensure adequate representation of the different specializations in the population. Canadian consulting engineering firms are distributed regionally according to natural resource sites and industrial locations. Alberta firms, for example, specialize in oil and gas; British Columbia firms specialize in forestry and pulp and paper; Ontario and Atlantic firms are more evenly distributed among the disciplines (Sector Competitiveness Frameworks Series, Industry Canada, 1996). So drawing a sample for the second phase of the study from Alberta biased it to some extent toward the oil and gas sector. Nearly 40% of the firms in the sample specialize in the petroleum and natural gas sector. The remaining 60% are spread over the other areas. About 23% of the firms are consulting in the environmental engineering area. A little over 15% focus on buildings in the structural, electrical and mechanical engineering disciplines. The remaining 20% are scattered across the other six specializations. Overall, there are eight dominant specializations represented in the sample, petroleum and natural gas, environmental, geology, buildings, communications, power, municipal, and mining & metallurgy.

The firms in the sample are privately held except four that are publicly traded. This is representative of the Canadian engineering consulting industry as a whole where most firms are privately held and Canadian owned. The size of firms in the sample as measured by the total number of staff covers a wide range from 5 to 7000 employees. The Canadian engineering consulting industry is dominated by smaller firms and in fact, most firms employ less than 50 people (Industry Canada, Sector Competitiveness Frameworks Series, 1996). These characteristics of the sample are a fairly accurate representation of the population of engineering consulting firms in Alberta doing international work. Descriptive statistics describing some of the characteristics of the sample are presented in Appendix E1.

Data collection procedure

A senior executive, usually the Vice President of International Operations or Marketing, was interviewed in each firm. Each interview lasted approximately one and half-hour. The interviews were conducted in 41 firms of which 39 are complete and useable. In each of the 39 cases, a firm's entry into a specific host country was discussed. In most cases the interviewees chose a country based on their involvement in the entry mode decision and the extent of recollection of the process. A majority of the interviewees picked a country where they were relatively well established which enabled them to trace a history of the entry mode process. Since the structured questions were combined with open-ended discussions all the interviews were taped with the permission of the interviewees. Later the tapes were transcribed so the open-ended discussions could be used to interpret the structured responses.

Measures: Dependent and Independent Variables

Dependent Variables

Degree of Presence. The degree of presence is measured in terms of the number of years in the host country. The range of the total number of years in a country is from 2 to 40 years. In a sample of 39 firms, 28 firms that constitute 71.8% of the total number of cases have a presence ranging from 2 to 8 years in the respective host countries. The remaining 28.2% is in the range of 10 to 40 years. The mean degree of presence for the whole sample is 9.28 years.

A log transformation of the distribution of the number of years in the host country is used as a measure of the degree of presence. Due to the wide spread in the distribution of number of years of presence in the host country, a log transformation of the distribution was advisable to rectify the skewness. The degree of presence variable is a continuous variable. An important point to note is that in most cases the interviewees picked countries where they thought themselves as well established and could talk about the issues surrounding the entry mode process in a historical context. In some ways, this choice of a host country also reflected the firm's extent of internationalization in how long the firm has been on the international scene or its level of exposure to doing projects internationally.

Focus. Focus involves a decision at the time of first entry into a host country. The firm may assume either of the three entry positions: one, it may enter a country only with a specific project in hand; two, it may enter a country without a project in hand but to exploit the opportunities in a potentially attractive market; and three, the firm may follow a client into the host country. These can be summarized as project following, market following, and client following entry positions. The frequency chart shows that out of 39 firms there are 30 cases of a project focus and 9 cases of a market focus. There are 13 cases of a client following situation or a client focus. Two Focus variables are created. One, a project versus market focus binary variable coded as 1 and 0 respectively. Two, a client versus non-client focus variable again coded as 1 and 0 respectively. Both the focus variables are dichotomous categorical variables.

Physical presence. The physical presence aspect of the entry mode decision involves a decision about the form of physical presence in the host country. Physical presence may range from frequent visits to establishing a full-fledged design office. The frequency charts show that there are 13 cases of only frequent visits, 8 cases of frequent visits as well as a project office, 12 cases of a sales office including country and regional offices, and 6 cases of design offices. For the purpose of analysis physical presence is categorized as having an office versus not having an office. The "no office" category refers to frequent visits and project offices. The "having an office" category refers to a sales office or a design office often in addition to the temporary visits to the host country and a project office. There are 21 cases (53.8%) of no office and 18 cases (46.2%) of either a sales office or a design office. Thus, the physical presence variable is also a dichotomous categorical variable.

Legal form. A fourth dimension of the entry mode process decision is the choice of legal form. This choice is made at two levels, the project level and at the level of the country in establishing a continuing or more long-term legal arrangement. The legal arrangements at the level of the project last for the duration of the project and the legal arrangement at the country level lasts beyond the length of any project. At the country level, there are 22 cases (54%) of a continuing legal presence in the data. The remaining 17 or 43% of the firms have not established a continuing legal arrangement. Four different types of continuing legal arrangements identified in the data include solely owned firms (12), permanent joint ventures (5), continuing associations (4), and marketing agreements/agents (3). Two continuing legal form variables are created. One is a binary variable that captures whether or not a firm establishes a continuing legal arrangement with the two categories coded as 1 and 0 respectively. The second continuing legal form variable has three categories to capture the choice of the type of legal form. The types of legal arrangements are classified as partnerships and solely owned ventures. Thus, the three categories represent no continuing legal form (17), a partnership form (11), and a solely owned venture (11) respectively. To summarize, both the continuing legal form variables are categorical variables.

At the project level, the different legal arrangements formed for five most recent projects were documented during the interviews. Four patterns were identified from the data. There are 11 cases of all subcontractual arrangements mostly with the firm as the lead partner. There are 9 cases of single firm projects involving no partners or subcontractors. There are 16 cases of a combination of subcontractual arrangements, single firm projects, and temporary joint ventures. The fourth pattern comprises of a pattern of the temporary project based arrangements and a permanent arrangement like a permanent joint venture or a solely owned venture.

Independent Variables

Host country or region. A total of 24 countries are covered in the entire study. For the purpose of analysis, these 24 countries are combined into 8 different regions, namely, Latin America, Asia, the Middle East, Africa, Russia (incl. Kazakhstan), Australia, the Caribbean, and the U.S. Each country was coded from 1 to 8 respectively.

Specialization. There are a total of eight different areas of specialization in the sample. They include petroleum and natural gas, environmental, geology, buildings, communication, power, municipal, and mining and metallurgy. They are coded from 1 to 8 respectively.

Firm specific characteristics. Firm specific characteristics include the size of the firm, the overall revenue of the firm, the total international revenue of firms based on an average over the past five years approximately, the number of countries the firm has operated in over the past five years, and the number of permanent world-wide offices. Some preliminary bivariate analysis was done which included scanning scatter plots and simple correlations. The scatter plots between various combinations of the firm specific characteristics were first carefully studied to get a preliminary sense of the nature of the relationships between variables, linear or non-linear, positive or negative, and to identify potential outliers that might have an undue influence on the correlation coefficients. The observations that appear as outliers in the scatter plots are the larger firms that are fewer in number in the sample. This is not attributable to the sampling but to a distribution inherent in the population of engineering consulting firms. Industry Canada in a document on consulting engineering indicates that most Canadian engineering consulting firms are small and some firms have grown large through amalgamation and mergers in the past five to ten years (Industry Canada, Sector Competitiveness Frameworks Series, 1996). These large engineering consulting firms also happen to be major international players. So even though statistically these firms appear as outliers, they are not removed because they are in fact representative of the nature of the distribution of engineering consulting firms doing international projects.

The correlation matrix in Appendix E2 indicates that the firm specific variables are highly correlated. Particularly significant is the correlation between firm size, measured by the number of staff, and the overall revenue of the firm. The Pearson and Spearman correlation coefficients are 0.962 and 0.976 respectively, both significant at the .01 level. Size is usually measured in terms of the total number of staff or the overall revenue of the firm. The near perfect correlation coefficient and the scatter plot suggest that the two variables are alternative measures for the same construct. The total number of staff was a better measure of size than the overall revenue for two reasons. One, some firms did not divulge the total revenue of the firm on the pretext of the firms being privately held. Two, due to the project-based nature of the business there was much fluctuation in the level of revenue. The total number of staff was relatively more stable and also the data complete for all 39 firms.

In the first phase of the study, a firms' extent of international involvement in terms of its international revenue seemed important to the entry mode decision.

International revenue as a percentage of total revenue is a good proxy for a firm's level of international involvement and has been used in past entry mode literature (e.g., Agarwal and Ramaswami, 1992).

The *degree of internationalization* in the international management literature, has been measured in terms of foreign sales which is a ratio of foreign sales to total sales, foreign production represented by the percentage of foreign assets to total assets, and geographical dispersion based on the number of countries in which a firm has subsidiaries (e.g., Sullivan, 1994; Sanders & Carpenter, 1998). The three dimensions are summed to form a composite measure of the degree of internationalization. In a project-based service such as engineering consulting, foreign sales and foreign production are difficult to measure. However, it is relatively easier to measure geographical dispersion. There is no prior research in the internationalization of engineering consulting firms to draw on for established measures of the degree of internationalization. But it is apparent from interviews with managers, from company brochures, and from consulting engineering directories that the average number of countries a firm has done projects in over the past few years and the number of worldwide permanent offices are reasonable indicators of geographical dispersion. As the correlation matrix in Appendix E2 indicates, the Spearman correlation coefficient between the number of countries and the number of global offices is 0.645 and is significant at the 0.01 level. Since, the two measures are highly correlated it made sense to arrive at a composite measure of the degree of internationalization. Both the measures demonstrated high inter-item reliability with an alpha of 0.82. In order to combine the two measures to arrive at a single measure of the degree of internationalization, I first converted the number of offices and the number of countries to z-scores and then added them to arrive at the measure of degree of internationalization.

In summary, three firm specific variables are included in the analysis. One, the *size of the firm* measured as a log transformation of the total number of staff in a firm; two, *international revenue* of the firm measured as a percentage of the total revenue of a firm; and three, the *degree of internationalization* measured as a composite of the number of countries and the number of global offices. For example, a scatter plot of the size of the firm and the number of offices worldwide indicates that up to a certain size there is no variation in the number of offices but after that there is a positive linear relationship between the two variables.

Relationships

The relationship construct has two dimensions that capture relationships at different stages of the process of entry into a host country. The first stage is at the point of first entering the host country. The second stage is building relationships subsequent to first entering the host country.

Relationships at the time of first entering the host country. Relationships at the time of the firm's first involvement in the host country comprise four variables: relationship with a business partner in the host country, a staff member's prior relationships and contacts in the host country, relationship with another professional firm, and relationship with the client. The scale for each of these is presented in Appendix F. A factor analysis of the four items resulted in two factors. The factor scores are reported in Appendix F. Reliability analysis was performed for items that loaded together except the one that loaded negatively. The Cronbach's alpha was 0.55 for the items representing relationship with a firm in the host country and the relationship of a staff member in the host country. According to Nunnally (1967), while for decision-making purposes alpha scores of 0.9 or greater are appropriate, for theory testing and related purposes an alpha of 0.5 is quite adequate. Since my study is not a rigorous theory testing but can be described better as a process of further theory development requiring a combination of confirmation and clarification, the less conservative standard of 0.5 seems acceptable. It was, therefore, reasonable to combine the two variables to arrive at a composite measure of relationships in the host country. More importantly, it made conceptual sense to combine them as both captured relationships in the host country. Finally, relationships at the time of first entering the host country comprise three variables: *relationships in the host country; relationship with another professional firm; and relationship with the client.* These are dichotomous variables.

Relationship building after entry into host country. After entering the host country firms build relationships with different parties such as clients, business partners in the host country and the home country, and business networks in the host country. It was evident in both phases of the study that different firms focus on different relationships in the context of a particular host country. The relationships they build and utilize as they enter a country project by project are likely to predict the type of physical presence the firm needs in the host country, the form of legal arrangement if any, and also the degree of presence in the host country. The relationship building construct is captured by four variables: relationship building with a business partner in the host country; relationship building with another engineering consulting or other professional firm in the home country; relationship building with clients; and relationship building with business networks in the host country. The scales for each variable are presented in Appendix F.

Again a combination of factor analysis and reliability tests was applied to the four items to improve the scales. The factor loadings are reported in Appendix F. Relationship building with a home country firm and relationship building with the client loaded on one factor and the other two variables, relationship building with a business partner in the host country and business networks in the host country loaded on the second factor. The two variables comprising the first factor demonstrated an acceptable reliability alpha of over 0.5 and were therefore combined to arrive at a composite variable. Conceptually, it made sense to combine relationship building with clients and relationship building with a home country firm. It was observed in both phases of the study that when an engineering consulting firm associates with a home country firm as a source of more work opportunities in the host country, this home country firm is perceived as the "immediate" client. Thus, the composite variable represents relationship building with clients. The variables in the second factor, however, had a Cronbach's alpha of 0.37, which is very low. Consequently, the two variables were not combined. Thus, the relationship building variables used in further analysis include *relationship building with a client; relationship building with a host country firm; and relationship building with business networks in the host country.* All the relationship-building variables are continuous measures.

Professional service firm characteristics

The role of PSF characteristics in determining the four dimensions of the entry mode process decision is captured by two sets of variables. First, there are five variables comprising reputation, intangibility, customization, the nature of human capital, and inseparability. Second, there are variables that capture what the firms do to deal with the uncertainty created by the intangible nature of services or what they do to enhance the firm's reputation in the host country. The variables comprising PSF characteristics enhance our understanding of what these concepts really mean in the context of these firms. Each of the PSF variables is a multi-item measure. Inter-item reliability tests indicated whether it was appropriate to combine these items to arrive at composite scores for each variable. Details are provided below and the scale for each variable is presented in Appendix G.

Reputation. The scale contains three items. The Cronbach's alpha was 0.58 for all three items. It improved slightly to 0.61 if only the first two items representing reputation at a technical level were combined and the third item representing reputation at a relational level kept separate. All three items were combined to arrive at one measure of reputation. However, two separate measures of the technical and relational dimensions of reputation were also created. Thus, there are two measures capturing reputation: *reputation at a technical level and reputation at a relational level.*

Intangibility. The scale contains three items. The reliability test revealed an alpha of 0.72, which was adequate for combining the two items as a single measure of intangibility.

Need for client-consultant interaction. Need for customer-client interaction was captured by three items representing three motivations for client-consultant interaction. A Cronbach's alpha of 0.63 was calculated and the items were combined to arrive at a composite measure of the construct.

Degree of customization. This is a single item measure. It captures how the application of concepts needs to be customized to every project.

Nature of human assets. The nature of human capital is described in terms of two dimensions. One dimension captures the dominance of human capital in terms of overheads. The second dimension refers to the difficulty of replicating people like machines. Both are single item measures.

Inseparability. Engineering consulting services involve a multi-stage process of service creation and delivery, typically involving prebidding, feasibility studies, conceptual design phase, detailed engineering, and supervision of construction. The interviewees were asked to rate the extent of inseparability at each stage of the process.

The variables discussed above capture what each of the PSF characteristic means. In order to capture the role of these characteristics in the entry mode process decision there was a need to go a step further. It was important to examine what the firms do to deal with these characteristics, especially to enhance reputation and to reduce uncertainty that may arise from the intangible nature of service. There are four items in the interview schedule that allude to the means used by firms to enhance their reputation and four items that reflect how firms mitigate the uncertainty likely to arise in the minds of the clients due to the intangible nature of what they contract to buy.

There appeared to be an overlap in some of these items and it made sense to reduce the number of items through factor analysis. A factor analysis yielded three factors. These factor loadings are reported in Appendix G. The items comprising each of the factors demonstrated a reliability alpha of over 0.5. Thus, the items were combined to arrive at three reputation enhancing and uncertainty reducing variables. First, the *role of references* including references from clients about the firm's capabilities and references about the staff members' capabilities. Second, ***maintaining continuous interaction with client in prebidding/initial stage and demonstrating firm's past experience***. Third, the ***firm's rapport with the client based on a past working relationship***.

In summary PSF variables include the following: ***reputation at a technical level; reputation at relational level; intangibility; need for client-consultant interaction; degree of customization; role of references***; ***maintaining continuous interaction with client in prebidding/initial stage and demonstrating firm's past experience***; and ***firm's rapport with the client based on a past working relationship***. Both the sets of PSF variables are continuous variables.

Nature of knowledge

There are two sets of knowledge related variables included in the analyses to examine the role of knowledge in the entry mode process decisions. First, three variables capture the nature of different types of knowledge, which are critical inputs in the engineering consulting service. These types of knowledge include individually held knowledge, team held knowledge, and the knowledge of organizing. The scale for each variable is reported in Appendix H. There are four items representing knowledge held by individuals. The inter-item reliability alpha is below 0.32 for all items together and increases to 0.6 after removing one item. The first three items are combined to arrive at a composite measure. Theoretically, it makes sense to have two measures for individually held knowledge as one represents the *experiential technical knowledge* and the other captures the importance of an individual's *ability to build good relationships with clients*. There are three items measuring *team held knowledge*. Based on a Cronbach's alpha of 0.65 for all the three items it seemed appropriate to combine them into one measure of team held knowledge. *Knowledge of managing and organizing* a project is represented by a single measure.

The second set of knowledge variables captures the extent to which the different types of knowledge can be replicated or copied. The scale is presented in Appendix H. Specific questions were asked about the degree of difficulty in replicating individually held knowledge and team based knowledge. The measure for the difficulty of copying individually held knowledge is a composite of two items. The Cronbach's alpha for these items was 0.71. The degree of difficulty in copying team held knowledge is a single item measure.

In sum, there are five knowledge variables in all: individually held knowledge; team held knowledge; knowledge of organizing; difficulty in copying individually held knowledge; and difficulty in copying team held knowledge. All the knowledge variables are continuous measures.

Transaction cost variables – opportunism and mitigating opportunism

Transaction costs factors include two sets of variables. The scales are presented in Appendix I. The first set comprises two types of risks of opportunism,

opportunism from business partners and opportunism from clients.

Opportunism from business partners is represented by two items, the risk of business partners walking away with expertise and the risk of business partners reusing designs. The two items were combined to arrive at a composite measure as an inter-item reliability test revealed a Cronbach's alpha of 0.70

Opportunism from clients is also represented by two items, the risk of clients terminating a contract and the risk of clients walking away with the firm's ideas to a cheaper consulting firm. The two items were combined to arrive at a composite measure of opportunism from clients.

The second set of transaction cost variables comprises factors mitigating opportunism. The scale is presented in Appendix I. In addition to direct questions about the threat of opportunism, the interviewees were also asked to rate the extent to which various factors might mitigate the threat of opportunism. These factors relate primarily to the nature of knowledge and the nature of engineering consulting, both as an industry and as a professional service. All items referring to "mitigating opportunism" and the "degree of difficulty in copying different types of knowledge" were factor analyzed and four factors generated. The factor loadings are reported in Appendix I. Factor one focuses on the *difficulty in copying individually held knowledge*. Factor two captures the *deterrents to misrepresenting and copying*. Factor three focuses on *past accumulated experience technically and relationally*. Factor four captures the *embeddedness of team held and organizationally held.*

In all, there are six transaction cost variables: *opportunism from business partners; opportunism from clients; difficulty in copying individually held knowledge*;

deterrents to misrepresenting and copying; *past accumulated experiential base technically and relationally*; and *embeddedness of team held and organizationally held knowledge.* These are all continuous measures.

Country-specific environmental variables

Five host country environmental variables were observed in the first phase of the study to be relevant to the entry mode decisions. These include the following: demand conditions in the host country; country risk in the form of political instability; a gap in technical and managerial expertise between home and host countries; cultural differences between home and host countries; and government regulations. Each of these factors affects different aspects of the entry mode process. The questions in the questionnaire that provide an assessment of the importance of these factors are presented in Appendix J.

Global Economies

Global economies are represented by two variables, economies arising from the existing network of offices and economies arising from a team. The relevant measures are found in Appendix K.

Economies arising from existing network of offices. This is a dichotomous variable measured by a question that asked interviewees whether or not the firms had a global network of offices.

Economies arising from a team. This is measured by one item that captures interviewees' assessment of the importance of team related economies in their decision about the location of design work.

In all, there are two types of global economies important in engineering consulting firms: *economies arising from existing network of offices* and *economies arising from a team.*

Data Analysis Strategy

The analysis strategy for this phase of the research was decided based on observations made in the first phase of the study and my reflections on the interviews in the second phase. Issues that consistently emerged as significant to managers in the context of their entry mode decisions across all sixty firms helped in outlining an analysis strategy or at least a starting scope of analysis. One of the limitations of a small sample size is that it constrains the number of variables that can be included at any one time in a statistical analysis. Large sample multivariate statistical tests are not strictly appropriate. It is not possible to look at the joint effect of different determinants of the entry mode process dimensions and difficult to examine interaction effects between variables. This is not a big issue, I think, since this study is not a rigorous test of a model but another step in the process of exploration to generate an entry mode process decision model relevant to a professional service industry. There is rich information in incorporating the different constructs one at a time and observing patterns and relationships.

The following is an overview of the types of statistical tests applied at different stages of the data analysis. This is especially important to discuss in the light of a small sample size, which imposes limitations on the choice of statistical tests. First, univariate summary statistics such as frequency counts, cumulative percentages, mean, median, mode, standard deviation, and the measures of skewness and kurtosis were examined for all the relevant variables. Descriptive statistics help understand the data in terms of the nature of distributions of the key dependent and independent variables. These preliminaries were necessary as this study is more exploratory rather than confirmatory in nature, requiring a good understanding of the behavior of variables and a search for patterns. Some graphical displays such as histograms and box plots were studied to get an overall understanding of the distribution of variables and also identify outliers. The sample of cases for this study is very diverse spread over a wide range of specializations, geographical areas, and represents a wide range of size, both in terms of number of staff and revenue. I was careful in identifying what may statistically appear as outliers but actually represent an intrinsic characteristic of the industry itself. Bivariate correlation tests were also performed to examine the association between some key variables. In addition to the Pearson correlation, the Spearman correlation was also examined. The Spearman correlation is more suitable for relationships that may not be perfectly linear and is also likely to be less sensitive to extreme values (Jobson, 1993, pg. 115). Correlations as well as scatter plots between independent variables helped interpret the results of regression analyses performed later.

The analysis is done in two phases. First, factor analysis is used to facilitate data reduction, which is important when there are a large number of variables and sub-variables relative to the size of the sample. A varimax rotation is performed to obtain factors that are more easily interpretable (Jobson, 1992, pg. 398). In some cases, the factor scores have been used as scale weights in further statistical tests such as regression analysis. In addition to factor analysis, reliability tests are done using the

Alpha (Cronbach) model to determine the internal consistency between items. Thus, a combination of factor analysis and reliability analysis is used before combining items in the questionnaire or refining the scales. Second, despite the small sample, regressions are also performed to see the simultaneous effect of different variables representing *one* construct. For example, the "types of knowledge" construct comprises three variables called individually held, team held, and organizationally held knowledge, which are examined together in a regression. As mentioned earlier it was not possible to look at the joint effect of all the constructs or different determinants of the entry mode process decisions due to a small sample. But each dependent variable could be regressed on one construct at a time as illustrated above. For models with the degree of presence as the dependent variable, which is a continuous variable, ordinary least squares (OLS) regression was performed. The other three dimensions of the dependent variable, physical presence, focus, and legal form are categorical binary variables for which OLS is not appropriate. The models for these binary dependent variables are, therefore, estimated with logistic regressions.

There was a need to look at a finer categorization of the continuing legal form variable that compares the "types" or forms of continuing legal arrangements such as partnerships and wholly owned ventures. While the binary variable captures the decision whether or not to set up a continuing legal arrangement, another variable is required which goes a step further in capturing the choice of legal form. Two types of legal forms are identified in the data: partnerships and solely owned ventures. Accordingly, another categorization of the continuing legal form variable is created comprising the partnership category and the solely owned venture category. Since this categorization excludes firms that do not have a continuing legal form in the host country it further reduces the size of the sample. All analysis involving the type of legal form binary variable was confined to simple correlations.

Summary of statistical tests used for analysis of data

The main statistical tests used for data analysis in the second phase of the study include ordinary least squares regressions, logistic regressions, and correlations. As described above, different tests were applicable depending on whether the dependent variable was continuous or categorical.

To recapitulate, the purpose of the second phase of this study was to continue the process of exploration and of building a theoretical framework for entry mode decisions of engineering consulting firms. The framework generated at the end of the first phase of the study was examined further for a larger sample of firms in a more systematic and structured manner. Data collected through a structured interview schedule was statistically analyzed. The next chapter reports and discusses the results of the analysis for the second phase of the study.

CHAPTER 5

PHASE II: ANALYSIS AND RESULTS

This chapter is devoted to the second phase of the research and the final step in the process of building an entry mode process decision framework for engineering consulting firms. To reiterate, the starting conceptual framework for the study was the Hill et al. (1990) entry mode decision framework and as a first step in adapting it to a professional service industry, professional services characteristics drawn from the past services literature were added to the framework. This was a starting point for the first phase of the research involving qualitative case based analyses of overseas entry mode decisions of twenty North American engineering consulting firms. It led to major modifications of the starting conceptual framework including a reconceptualization of the entry mode construct, addition of new issues salient to the entry mode decisions of this industry, and expansion of existing concepts in the starting conceptual framework. The most significant outcome of the research was a reconceptualization of the entry mode decision as an entry mode *process* decision and as a multidimensional construct. The framework generated at the end of the first phase of the study was explored further, in the second phase of the study, for a larger sample of firms in a more systematic and structured manner. It is important to bear in mind that the purpose of the second phase is further clarification and confirmation of observations made in the first phase of the study.

Since the entry mode process involves decisions around multiple dimensions, the analysis of the factors affecting the four dimensions is presented in the following order. First, the *focus* dimension which involves two types of decisions. One, a choice between a project following and a market following strategy at the time of first entering a host country, and two, a choice between following a client into the host country or not when first entering a host country. Second, the *physical presence* dimension which is a decision to either have physical presence in the host country through temporary visits and project offices, or to set up a permanent office in the form of a sales or a design office. Third, the *continuing legal form* dimension that involves two decisions. One, whether or not to set up a continuing legal entity lasting beyond the life of any project. Two, following up on the decision to set up a continuing legal arrangement, whether to set up a solely owned subsidiary or a partnership form. Fourth, the *degree of presence* dimension which is a firm's continuous length of stay in the host country until the present.

The logic for this order of analysis is the timing of the different decisions in the entry mode process. The focus decisions are made right at the start of the entry mode process. The decision to set up an office may be made subsequently and sometimes concurrently. The choice of legal entity will follow but there may be situations where a legal entity is established without an actual physical presence in the country. The degree of presence is really the culmination or the most recent point in the process of entry. While, the four decisions are not necessarily linear, theoretically the order makes sense in the overall scheme of the entry mode process. As for the order of independent variables, variables that emerged in the first phase as particularly interesting and reflected the potential to add to our understanding of entry mode decisions of PSFs are analyzed first. However, the role of basic firm characteristics in the entry mode process is reported in the beginning because these characteristics create a context for understanding the impact of more complex and abstract factors.

The analysis is organized by the determinant factors or the independent variables and is presented as follows. First, the statistical results are reported for each dependent variable followed by a brief discussion summarizing the role of the independent construct in each aspect of the entry mode process. Second, a discussion pulling together the results for each dimension and relating them to observations made in the first phase of the study or to past research is presented. The four dimensions of entry mode and the independent constructs included in the analysis are summarized in Appendix L.

Firm specific characteristics

Firm specific characteristics include the size of the firm, the degree of internationalization, and international revenue. The relationship between firm specific characteristics and the four aspects of entry mode was first examined. The results of logistic regression analysis for the project versus market focus, a client following focus, physical presence and continuing legal form are presented in Table 5-1. The OLS regression analysis for the degree of presence variable is reported in Table 5-3. Model 1 examines the effect of degree of internationalization and international revenue on each dimension of the entry mode process before controlling for size. Model 2 estimates these relationships after controlling for size.

Table 5-1: Results of Logistic Regression Analysis for Project versus Market Focus, Client following focus, Physical Presence, Continuing Legal Form – Firm specific characteristics[1]

Variable	Model 1	Model 2
Size		0.128
		(0.25)
International revenue	0.024	0.026
	(0.02)	(0.19)
Degree of internationalization	-0.101	-0.185
	(0.23)	(0.28)
Intercept	0.465	-0.292
	(0.65)	(1.66)
χ^2	1.820	2.066
Size		**0.498***
		(0.26)
International revenue	-0.008	-0.001
	(0.02)	(0.02)
Degree of internationalization	0.086	-0.233
	(0.186)	(0.26)
Intercept	-0.41	-3.484
	(0.592)	(1.74)
χ^2	0.414 (2)	4.698 (3)
Size		**1.638*****
		(0.63)
International revenue	-0.003	0.023
	(0.02)	(0.024)
Degree of internationalization	**1.834*****	0.504
	(0.75)	(0.514)
Intercept	0.918	-9.671
	(0.83)	(0.015)
χ^2	13.218 (2)	28.078 (3)
Size		0.190
		(0.26)
International revenue	-0.003	0.002
	(0.02)	(0.02)
Degree of internationalization	**1.446****	1.121
	(0.711)	(0.79)
Intercept	1.199	-0.131
	(0.83)	(1.98)
χ^2	8.808 (2)	9.330 (3)

[1] standard errors are in parentheses, N=39

$^{*}p < .10$ $^{**}p < .05$ $^{***}p < .01$

Focus involves a choice between a project or market strategy and a choice between following a client or not following a client strategy.

Project versus market focus. Models 1 and 2 reported in Table 5-1 indicate that none of the firm-specific characteristics are significantly related to the project versus market focus. Thus, size, international revenue, and the degree of internationalization do not affect the likelihood of a project versus market focus. There were no indications in the first phase of the study either of a clear relationship between these firm specific characteristics and the decision to enter a country by following a project or a market.

Client following focus. Models 1 and 2 both show that international revenue and the degree of internationalization are not significantly related to the likelihood of a client focus. Model 2, that includes size, shows that size is significant at the 0.1 level of significance indicating that the greater the size of the firm the higher the likelihood of a client focus. A larger firm is more likely to follow a client into the host country.

Physical presence. The results of the logistic regression analysis relating firm specific variables with the physical presence decision are also reported in Table 5-1[1]. Model 1 suggests that before controlling for size, the degree of internationalization is both significantly and positively related to physical presence. In Model 2, after controlling for size, the degree of internationalization has a positive coefficient but is not significant anymore. Size is significantly and positively related to the likelihood of setting up a permanent office in the host country. The greater the firm size the higher the likelihood of a physical presence in the form of an office versus only frequent visits and project offices.

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[1] This analysis was performed after removing one observation that was detected as an outlier. The results before removing the outlier were the same except the sign for the degree of internationalization was negative. This is because of the profound effect of the outlier firm. Although the firm is highly internationalized it does not have a physical presence in the host country discussed. The projects in this specific country were being serviced by offices in surrounding countries. The scatter plot between the type of physical presence and the degree of internationalization is shown in Appendix M to illustrate the outlier.

In summary, larger firms are more likely to set up an office in the host country.

Continuing legal form. The logistic regression analysis was repeated to test the relationship between firm specific characteristics and the decision to set up a continuing legal arrangement.[2] Model 1 shows that the degree of internationalization is significantly and positively related to the likelihood of setting up a continuing legal form before controlling for size. Model 2 reports that after controlling for size, however, none of the three variables are significant. An examination of the correlations indicates that the correlation between size and the continuing legal form variable is 0.33 and that between the degree of internationalization and continuing legal form is 0.37. Although, the correlations are significant at the 0.05 level they are rather weak.

Type of continuing legal form. The next step was to explore the decision with respect to the *type* of continuing legal arrangement if a firm decides to set up a continuing legal form. Correlations between the type of legal form, that is partnership versus solely owned ventures and firm specific characteristics were examined. The correlation matrix is presented in Table 5-2.

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[2] The analysis was done after removing an outlier firm. There is no difference in the results of the analysis before and after removing the outlier.

Table 5-2: Bivariate Correlations between Firm Specific Characteristics and Type of Legal Form

Variable	1	2	3	4
1. Size[a]	1.00			
2. Degree of internationalization	0.65***	1.00		
3. Internatl rev	0.02	0.14	1.00	
4. Type of legal form	**0.50****	0.17	0.05	1.00

[a] Logarithm of variable *p < .10 **p < .05 ***p < .01

There is a positive and significant correlation between the type of continuing legal form and the size of the firm. This suggests that larger firms will tend more to set up solely owned ventures rather than partnerships. There is no significant association between the type of legal form and the degree of internationalization and international revenue respectively.

Degree of presence. Table 5-3 reports the results of the tests of firm specific characteristics predicting the degree of presence[3]. Model 1 indicates that overall international revenue and the degree of internationalization are positively and significantly associated with the degree of presence of the firm in the host country. In Model 2, after controlling for size, international revenue and the degree of internationalization continue to be positively and significantly related to the degree of presence. Size is not significant and in fact, adding the size variable in Model 2 increases the R-square only by a marginal 0.002.

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[3] The analysis was conducted after removing one observation that was detected as an outlier. The degree of internationalization becomes significant after removing the outlier firm. This is because the host country discussed for the outlier firm happened to be one where the firm has been present for a relatively short time even though it is one of the most highly internationalized firms.

Table 5-3: Results of the OLS Regression Analysis for the Degree of Presence – Firm Specific Characteristics[1]

Variable	Model 1	Model 2
Size		0.023
		(0.07)
International revenue	**0.015*****	**0.015*****
	(0.004)	(0.005)
Degree of internationalization	**0.235*****	**0.215****
	(0.07)	(0.093)
Intercept	1.510	1.370
	(0.18)	(0.45)
R*2	0.426	0.428

[1] standard errors are in parentheses, N=39 $p < .10^{*}$ $p < .05^{**}$ $p < .01^{***}$

To summarize, international revenue and the degree of internationalization both enhance the degree of presence. In the first phase, it was observed that the degree of internationalization and the overall international revenue of the firm played a role in a firm's entry into a country. The analysis in the second phase suggests that the degree of presence in a country can be predicted by the degree of internationalization and the overall international revenue of the firm. One would expect that firms on a higher end of the continuum in terms of international revenue and the degree of internationalization or, at least one of them, would be present at least in some country or countries for a reasonably long period of time. The interviewees in most cases focused on a country where they were fairly well established so they could bring a historical perspective to the discussion on the entry mode process. Thus, given this general nature of the sample of host countries discussed, it was reasonable to expect a positive relationship between the degree of presence and the degree of internationalization and international revenue. Overall, there is a positive and significant relationship between the degree of internationalization and the degree of presence.

Discussion: Role of firm specific characteristics on the entry mode process

All the significant relationships are discussed with reference to observations made in the first phase of the study and past literature. In addition, the unexpected results or "surprizes", especially those that did not emerge as significant contrary to expectations based on the first phase are also discussed. The size of the firm appears to enhance the chances of a client following strategy, of setting up a sales or a design office, and of setting up a solely owned venture. International revenue emerges as a predictor of the degree of presence. The degree of internationalization shows mixed results. A higher degree of internationalization predicts a higher degree of presence in the host country. The results are discussed in detail in the following paragraphs.

In the first phase of the study, it was difficult to deduce anything about relationships between the focus decisions and the size of the firm. Further analysis in the second phase suggests that size is important for the choice of a client following strategy. A potential explanation for this positive relationship is that a larger size provides the firm the necessary human and financial resource base to enable it to make a commitment to a client. Interviews across all 60 firms strongly suggest that known clients can often demand specific people on the project, usually people they have been associating with in past projects. When a firm follows a client into the host country it makes a long-term commitment of people who would be assigned to the client's projects. Most likely they may be required to have a visible physical presence in the host country. This is also evidenced by the fact that nearly 70% of the firms that followed their client set up an office in the host country. Thus, a larger size provides the firm the ability to meet clients' expectations.

The relationship between the decision to set up an office and the size of the firm was also observed in the first phase of the study. The second phase confirms it. There is consensus in past research too that firm size is positively related to the decision to set up a permanent office in the host country (e.g., Horst, 1972; Grubaugh, 1987; Li & Gusinger, 1992). Since people are the dominant asset, the size of the firm is a good predictor of the decision to set up an office. A bigger firm with a larger reservoir of human and financial resources has the capacity to absorb the overhead and allocate some of the home country personnel to a foreign office.

Size also emerges as an important factor in the choice between a solely owned firm and a partnership. It is not, however, a significant determinant of the decision to set up a continuing legal form. In the first phase, the role of size in the decision to set up a continuing legal arrangement beyond the life of a single project was not clear. This is partly because there were firms that did not set up a continuing legal firm, irrespective of their size. They continued to operate project by project using legal forms like associations and temporary project based joint ventures. The same pattern is observed in the second phase where in 17 out of 39 cases there is no continuing legal arrangement in the host country. However, for firms that do choose to set up a continuing legal arrangement, one finds that on average larger firms tend to choose solely owned ventures. Several empirical studies in the past suggest that firm size is expected to be positively correlated with its propensity to enter foreign markets in general, and choose sole and joint venture modes in particular (Buckley & Casson, 1976; Caves & Mehra, 1986; Terpstra & Yu, 1988). Further, larger firms are more likely to choose a solely owned venture over a joint venture (Agarwal & Ramaswami, 1992). This supports what was observed in both phases of this study, that, of the firms which choose to set up a continuing legal form, the larger ones prefer a solely owned venture over a partnership. A larger firm has more human and financial resources and has the capacity to set up a solely owned venture. Earlier studies have also suggested that firms which possess the full complement of resources, especially if these resources are tacit knowledge and goodwill, would go for a solely owned venture (Hennart, 1991).

International revenue is a predictor of the degree of presence. It was also observed in the first phase of the study that firms with higher international revenues tend to have a higher degree of presence in the host countries.

The degree of internationalization is a predictor of the degree of presence. Surprisingly, the relationship between the degree of internationalization and a client following strategy and the decision about physical presence in the host country are not significant. Despite the non-significant results these relationships warrant a discussion. As far as client following is concerned, there was evidence in the first phase of the study that the highly internationalized firms are much less dependent on following clients into the host country. Although, the degree of internationalization is not significant in the second phase analysis, it has a negative coefficient. The higher the degree of internationalization the less the likelihood of following the client. Based on observations in the first phase, the less internationalized firms are likely to have a client focus for two reasons. First, they tend to be more risk averse and following a prior client with guarantee of future work is safer. Second, some of the less internationalized firms do not seek projects directly but through another professional firm like an engineering firm or an architectural firm. In other words, these other firms are, in effect, the firm's "immediate" clients. There is evidence in past research too that following the client can be a motive in the early stages of internationalization of service multinationals but it reduces over time (Li & Guisinger, 1992).

The first phase of the study suggested that the highly internationalized firms are more likely to have a physical presence in the form of a sales or a design office in the host country. However, the degree of internationalization variable is not significant for the decision to set up a permanent office. There are two explanations for this. The data in this phase indicates that size and the degree of internationalization are highly correlated (0.65). This was evident in the first phase of the study as well. The strong association makes sense as a firm requires resources to engage in international expansion (Agarwal & Ramaswami, 1992). Due to the high correlation, however, it is possible that after adding the size variable the degree of internationalization becomes insignificant. In addition to a statistical explanation, another reason is the two pronged effect of the degree of internationalization. There were many scenarios observed in the first phase, convincing of an important role of the degree of internationalization in the entry mode process decision. The nature of the relationship was, however, fuzzy because two different effects of the degree of internationalization were observed. On the one hand, there were examples of highly internationalized firms with an existing infrastructure of global offices that used this network of offices to service projects in countries in the vicinity. This reflects the concept of regionalization, that is, an office assuming the status of a regional office serving an entire region. This grows with the increasing degree of internationalization. On the other hand, there were other situations that suggested that a high degree of internationalization actually facilitated the process of setting up more offices in a larger number of countries. This was reflected in the second phase interviews too. Statistically, the degree of internationalization is positive although, it is not significant after controlling for size. This may be due to the complex two-pronged effect of internationalization.

The positive relationship is more likely the function of the sample of host countries discussed in the second phase. The host countries are themselves hubs serving projects in surrounding countries and islands. For example, the South Pacific region is served by an Australian office, and in the Caribbean an office in Barbados serves Belize, Bermuda, the Cayman Island and so on. This is also common in Central and South America. For example, an office in Peru would serve Ecuador, Colombia, and Bolivia. Based on this, we would expect a positive relationship between internationalization and the likelihood of setting up a long-term office.

Scatter plots of size with the degree of internationalization and separately with the number of worldwide offices were also examined (Appendix M, plots 2&3). It was clear that up to a certain size there are very few offices or for a certain increment in size there is little or no increase in the number of offices or in the overall degree of internationalization. It was apparent in the first phase interviews that smaller firms are relatively resource constrained and tend to reap economies from the use of one office to serve an entire region. However, after a certain size there is a clear positive linear association between size and the number of offices and between size and the degree of internationalization.

All these effects of the degree of internationalization are clearly difficult to capture. Further, the results depend on the host countries discussed and the data in this study is limited in this respect. This complexity makes the degree of internationalization a very interesting factor in the physical presence decision. An insignificant statistical relationship between the degree of internationalization and the physical presence decision does not provide a strong argument for excluding it from the entry mode decision framework.

In summary, the size of the firm and international revenue are important for the entry mode process. Size in particular is a critical factor for all the dimensions of the entry mode process. The degree of internationalization is clearly important based on qualitative evidence. Due to its complex effects, it is probably difficult to capture the role of the degree of internationalization statistically. A small sample size in this study is also a constraint.

Relationships

The relationship variables capture relationships at different stages of the process of entry into a host country. First, the status of a firm's relationships with clients and other engineering consulting firms, both in home and host countries, at the time of the firm's first involvement in the host country. Second, relationships built subsequent to the firm's first project or involvement in the host country. For the project versus market focus and client following decisions only relationships existing at the time of first entering the host country are relevant. Physical presence, continuing legal form, and the degree of presence decisions are likely to be affected by both relationships at the time of first entering the host country and the relationships that develop subsequently. Table 5-4 presents the logistic regression results for the focus variables. Table 5-5 provides the logistic regression results for the physical presence and continuing legal form variables. Table 5-7 reports the OLS regression estimates for degree of presence. In Tables 5-5 and 5-7, Model 1 estimates the coefficients for relationships existing at the time of first entering the host country. Model 2 looks at the role of relationship-building subsequently in predicting the different aspects of the entry mode process.

Project versus market focus. Model 1 in Table 5-4 indicates that firms which have a pre-existing relationship with the client at the time of the firm's first involvement with the host country are more likely to have a project focus over a market focus. Relationships in the host country and the home country are not significant in differentiating between a project focus and a market focus.

Client following focus. Table 5-4 shows that firms with an existing relationship with the client are more likely to follow the client into the host country. This may sound tautological but it does not imply that every firm that has a preexisting relationship with the client will necessarily follow the client into the host country. Rather, a prior relationship with the client *increases* the chances that the firm will follow the client into the host country to do a specific project for the client.

Table 5-4: Results of Logistic Regression Analysis for Project versus Market Focus and Client-following–Relationships at the time of first entry into host country[1]

Variable	Model 1
Project versus market focus	
Relationships in host country	-0.631
	(0.62)
Relationships in home country	1.015
	(1.24)
Relationship with client	**2.604****
	(1.15)
Intercept	0.523
	(0.66)
χ^2	10.085**
Client following or not	
Relationships in host country	0.599
	(0.69)
Relationships in home country	0.806
	(1.08)
Relationship with client	**3.584*****
	(1.16)
Intercept	-3.534
	(1.23)
Overall model χ^2 (3 df)	17.83***

[1] standard errors are in parentheses, N=39

* $p < .10$ ** $p < .05$ *** $p < .01$

In summary, firms that have a pre-existing relationship with the client at the time of first entering the host country are more likely to adopt a project focus and also follow a client into the host country.

Physical presence. Table 5-5 reports the logistic regression results for the type of physical presence on the relationship variables.

Table 5-5: Results of Logistic Regression Analysis for Physical Presence and Continuing Legal Form – Relationships[1]

Variable	Model 1	Model 2
Physical presence		
Relationships in host country	**1.525** ***	
	(0.68)	
Relationships in home country	-1.216	
	(0.99)	
Relationship with client	0.037	
	(0.76)	
Intercept	-0.646	
	(0.62)	
χ^2 (df 3)	11.919 ***	
Relationship building with client and home country firm		**-0.484** ***
		(0.21)
Relationship building with a host country firm		0.385
		(0.29)
Relationship building with the business networks in the host country		**-0.448** *
		(0.27)
Intercept		3.278 **
		(1.61)
χ^2 (df 3)		9.777 **
Continuing legal form		
Relationships in host country	0.362	
	(0.56)	
Relationships in home country	**-2.123** **	
	(0.93)	
Relationship with client	-0.887	
	(0.75)	
Intercept	1.055	
	(0.65)	
χ^2 (df 3)	9.338 **	
Relationship building with client and home country firm		-0.201
		(0.24)
Relationship building with a host country firm		0.052
		(0.39)
Relationship building with the business networks in the host country		-0.712
		(0.44)
Intercept		3.219
		(2.08)
χ^2 (df 3)		3.927

[1] standard errors are in parentheses, N=39, * p < .10 ** p < .05 *** p < .01

Model 1 suggests that firms with pre-existing relationships in the host country are more likely to set up a physical presence in the host country in the form of a sales office or a design office. Relationships in the host country may either arise out of a firm's prior association with another engineering consulting firm in the host country or the firm's staff members' contacts in the host country. Model 2 shows that relationship-building with clients or another firm in the home country, often referred to as the "immediate" client, reduces the likelihood of the firm establishing a physical presence in the form of an office in the host country. This makes sense because if it is the relationships on the home ground that are instrumental in the firm getting more project opportunities then there is probably no need to incur the extra overhead of an office in the host country. Model 2 also shows that the higher the relationship building with the business networks in the host country the less the likelihood of a firm establishing an office in the host country.

Thus, relationships in the host country existing in the beginning increase the chances of setting up a permanent office in the host country. On the other hand, relationship-building in the home country and with business networks in the host country are likely to reduce the likelihood of establishing a sales or a design office.

Continuing legal form. The regression results for the continuing legal form decision are also reported in Table 5-5. Model 1 shows that a firm's relationship with other home based engineering or professional firms at the time of the firm's first involvement in the host country is significantly but negatively related to the likelihood of establishing a continuing legal arrangement in the host country. Model 2 provides the coefficients for the relationship variables that capture relationship building subsequent to the first entry into the host country. None of the relationship building variables significantly impacts the decision to set up a continuing legal arrangement in the host country.

In sum, the relationship with a home country firm at the time of the firm's first project in the host country reduces the likelihood of establishing a continuing legal arrangement in the host country.

Type of continuing legal form. The next step was to explore the decision with respect to the *type* of continuing legal arrangement. Correlations between the type of legal form, that is, a partnership versus a solely owned venture and the relationship variables were examined. The correlation matrix is presented in Table 5-6.

Table 5-6: Bivariate Correlation coefficients for all Relationship Variables and the Type of Legal Form.

Variable	1	2	3	4	5	6	7
1. Relationships in host country	1.00						
2. Relationships in home country	-0.26	1.00					
3. Relationship with client	-0.21	0.38*	1.00				
4. Relationship building with client and home country firm	-0.05	0.44**	0.13	1.00			
5. Relationship building with a host country firm	-0.11	-0.21	-0.25	0.19	1.00		
6. Relationship building with the business networks in host country	-0.44**	-0.11	-0.41	-0.15	0.43***	1.00	
7. Type of legal form	**0.36***	-0.32	-0.09	-0.11	-0.18	**-0.41***	1.00

* p < .10 ** p < .05 *** p < .01

Two correlations between the type of legal form and relationship variables are significant. First, there is a positive and significant correlation between the type of continuing legal form and relationships in the host country existing at the time of the firm's first involvement in the host country. This suggests that firms with a higher level of existing relationships in the host country will tend more to set up solely owned ventures over partnerships. Second, there is a significant but negative correlation between the type of legal form and relationship building with business networks in the host country. Firms that focus on building relationships with business networks in the host country are more likely to build a partnership. This makes sense in the light of the distribution of responses from interviewees on the role of relationship building with business networks in the host country. Higher scores on this corresponded with firms that had an associate or an agent in the host country. These associates or partners helped develop business connections in the host country.

In summary, relationships existing in the host country at the time of the first entry in to the host country point to a greater possibility of choosing a solely owned venture. On the other hand, building relationships with business networks in the host country suggests a greater tendency towards forming partnerships.

Degree of presence. Table 5-7 reports the results of the analysis testing the relationship between the relationship variables and the degree of presence.

Model 1 estimates the coefficients for the relationship variables relevant at the time of first involvement in the host country. There is a significant and negative association between the firm's relationship with another home country engineering firm, which was instrumental in the first project opportunity, and the degree of presence. This suggests that if the firm got the first project opportunity because of the relationship with another home country firm then the lower the degree of presence the firm has in the host country.

Table 5-7: Results of OLS Regression Analysis for Degree of Presence – Status of relationships at the time of first entry into host country[1]

Variable	Model 1	Model 2
Relationships in host country	-0.0721	
	(0.22)	
Relationships in home country	**-0.542***	
	(0.299)	
Relationship with client	-0.074	
	(0.252)	
Intercept	2.142	
	(0.220)	
R*2	0.089	
Relationship building with client and home country firm		0.046 (0.060)
Relationship building with a host country firm		0.023 (0.093)
Relationship building with the business networks in the host country		0.130 (0.086)
Intercept		1.249
		(0.508)
R*2		0.081

[1] standard errors are in parentheses, N=39

* $p < .10$ ** $p < .05$ *** $p < .01$

Model 2 estimates the relationship between the relationship variables representing relationships built subsequent to the first involvement in the host country and the degree of presence. Surprisingly, none of these variables are significant. The regression was repeated after excluding 'relationship-building in the host country' variable, which seems to be most insignificant and also moderately correlated with relationship building with business networks. Relationship building with business networks in the host country was found to be positively and significantly related to the degree of presence at conventional levels of significance. Thus, firms that cultivate a relationship in the business networks of the host country have a higher degree of presence in the host country.

In sum, a prior relationship with another firm in the home country at the time of first entering the host country predicts a lower degree of presence. Relationship building with business networks in the host country is likely to enhance the firm's degree of presence in the host country.

Discussion: The role of relationships in the entry mode process

Relationships in the beginning. A firm's prior relationships at the time of first entering the host country appear to be significant to the entry mode process. An existing relationship with the client is likely to increase the possibility of project focus and a client following strategy. Both the relationships confirm observations from the first phase of the study.

A prior relationship with a business partner in the host country or a staff member's personal contacts in the host country is likely to encourage a firm to set up a sales or a design office. This emerged as an important factor in the first phase of the study. Also, past research suggests that when entering an overseas market the decision maker's perception of risk in the host country is critical to the decision to commit resources to the market (Johanson & Vahlne, 1977). Market knowledge and market commitment are directly related. In that sense, prior relationships in the host country bring that market knowledge and likely reduce the perception of risk. Prior relationships in the host country increase the likelihood of getting more project opportunities and eventually justify an office. An office further perpetuates the process by capitalizing on the relationships and keeping track of project opportunities.

A firm's existing relationships in the host country also play a significant role in the choice of legal arrangement if a firm decides to have a continuing legal form in the host country. A firm with relationships in place in the host country with another firm or through staff member's contacts would likely set up a solely owned venture rather than a partnership. A reduction in the perception of risk enabled by existing contacts and relationships is a valid explanation for this too. Interviewees in both phases of the study suggested that existing relationships give the firm the confidence to go it alone. In sum, existing relationships in the host country are important to the physical presence and the type of legal form decisions.

Firms that have a pre-existing relationship with another home country firm are less likely to set up a continuing legal arrangement in the host country. Since relationships cultivated on the home base provide access to project opportunities in the host country the firm does not need a continuing legal presence in the host country. This relationship was clearly observed in the first phase of the study and is confirmed in the second phase. Prior relationships in the home country also predict a lower degree of presence of the firm in the host country. This can be explained in terms of the risk averse approach that firms often take towards international work. These firms deliberately do not seek overseas projects directly but get involved through a lead consultant, another home country firm with whom the firm may have been associating domestically. This is especially dominant in the early years in the host country. When a firm's first involvement has come about through another home country firm, the firm is likely to continue the same route of involvement for some time. These firms seem to be at the stage of a relatively lower degree of presence in the host country. Over all, prior relationships in the home country are critical for the continuing legal form decision and for predicting the degree of presence of the firm in the host country.

To summarize, prior relationships of a firm with the client and other engineering firms in the host and home countries are critical for different aspects of the entry mode process. These results support observations made in the first phase of the study.

Relationship building subsequently. The study also supports the role of relationship building, subsequent to a firm's first entry into a host country, in the entry mode decisions. Setting up an office is less likely for firms that emphasize their relationship building with another home country firm or with the client. This was also apparent in the first phase of the study where there were examples of firms gaining access to projects overseas through their relationship with another home based professional firm, "piggy backing" as some managers called it. It is this firm that actively seeks new projects. Further, when there is a home based engineering consulting firm involved in a project, the execution of the project requires interaction with that firm, thus, not requiring a substantial physical presence in the host country. Hence, both from a marketing point of view and from the project logistics point of view there is no need for an office in the host country.

Second, the results indicate that firms building relationships with business networks in the host country are less likely to establish an office in the host country. Although there was evidence in the first phase of firms emphasizing relationship building with the local business networks, it was not discernable as to how that would affect the likelihood of setting up an office. What was more obvious is that these relationships help in enhancing presence in the country. A logical proposition would be that building these relationships may require the firm to be physically present there, at least have a small sales office. An examination of the distribution of responses to relationship building with business networks suggested that higher scores on this corresponded with firms that had a marketing arrangement with an associate or an agent in the host country. Having an associate or agent to cultivate the business connections in the host country may alleviate the need for a permanent office. This relationship is further corroborated by another result of the study. Relationship building with business networks predicts a partnership form of legal arrangement in the host country over a solely owned venture.

Relationship building with business networks in the host country also predicts a higher degree of presence. There is evidence in the first phase of the study of building relationship building with business networks in the host country helping enhance presence. The first phase also predicts that relationships in the host country, especially connections of staff members, would increase the degree of presence. However, this was not reflected statistically in the second phase.

In summary, relationships both in the beginning and subsequent to the first project in the host country are clearly important to the entry mode process of the firms. The project versus market focus and the client following focus are influenced by a prior relationship with the client. The decision to set up an office is likely to be influenced by existing relationships in the host country, relationship building in the home country and relationship building with business networks in the host country. The solely owned venture versus partnership decision is affected by relationships in the host country and relationship building with business networks there. The degree of presence appears to be predicted by relationships in the home country and relationship building with business networks in the host country.

PSF characteristics

The PSF construct is represented by two sets of variables. First, those that capture PSF characteristics, reputation, intangibility, need for client-consultant interaction, degree of customization, the dominance of human assets, and the nature of human assets. Second, those that capture what the firms do to enhance reputation and reduce uncertainty arising from intangibility. These include the role of references, continuous interaction in the prebidding/initial stage and demonstrating past project experience, and a rapport with clients based on past working relationship. Logistic regression analysis was performed separately for each entry mode aspect on each set of PSF variables, that is, PSF characteristics and reputation enhancing & uncertainty reducing variables. For the degree of presence dimension of entry mode, an OLS regression analysis was performed to examine the relationship between the degree of presence and the two sets of PSF variables respectively. All regression analyses were performed in the following order: first, each entry mode dimension was regressed on each PSF characteristic separately; second, all the PSF characteristic variables were included and a backward variable elimination procedure performed to arrive at the final model; third, the analyses was repeated for reputation enhancing and uncertainty reducing variables. Only the significant results are reported and the model after backward elimination is presented.

Project versus market focus. First, the relationship between PSF characteristics and the project versus market focus was examined. None of the variables were found to be significant and retained in the final model after the process of backward elimination. Next, the relationship between reputation enhancing and uncertainty reducing variables and the project versus market focus variable was examined. None of the three factors, that is, the role of references, continuous interaction in the initial stages and demonstrating past project experience, and a rapport with clients based on past working relationship, are significantly related to the project versus market focus.

Client following focus. The logistic regression for each PSF characteristic separately revealed no significant relationship with the client focus. The inclusion of all PSF characteristic variables in the model and the backward elimination process retained two variables, the dominance of human capital and the need for client consultant interaction. The coefficients are shown in Table 5-8.

Table 5-8: Results of Logistic Regression Analysis for Client-following Focus – PSF Characteristics[1]

Client v Non-client focus	Model 1 (model after backward elimination)
Dominance of human assets – overheads	**-0.046** * (0.024)
Need for client-consultant interaction	**-1.469** * (0.801)
Intercept	8.604 * (4.46)
Overall model χ^2 (3 df)	5.458 *

[1] standard errors are in parentheses, N=39

* p < .10 ** p < .05 *** p < .01

Model 1 in Table 5-8 indicates a negative but significant relationship between the degree of dominance of human capital and the likelihood of following a client. The greater the total overhead attributed to personnel related costs the less the likelihood of following the client. Similarly, the need for client-consultant interaction is significantly but negatively related to the likelihood of following a client into the host country. Thus, the lesser the need for client-consultant face to face interaction the greater the likelihood of following a client into the host country.

A bivariate correlation analysis showed that there is a negative but significant association between the need for client-consultant interaction and overheads attributed to personnel. The negative association makes sense because higher overheads on account of personnel make the extent of face to face interaction difficult because of the expenses involved. This helps interpret the relationship of these two variables with the client following strategy. The higher the overheads related to personnel the less the likelihood of following the client because it requires a long-term commitment of staff. The client often requires the firm to involve particular staff they are comfortable with and even demand a certain extent of physical presence in the host country. As far as the need for face to face client-consultant interaction is concerned, the lesser the need for interaction the greater the likelihood of following the client because the reduced need for face to face interaction also implies reduced overheads.

The logistical regression analysis was then performed for the factors representing what firms do to enhance their reputation and reduce the consequences of intangibility. None of the three factors was found to be significant.

In summary, high overheads and a high need for client-consultant interaction are likely to discourage firms from following a client into a host country.

Physical presence. The physical presence variable was regressed on each PSF characteristic to examine how each one is related to the decision to have a physical presence in the form of a permanent office in the host country. None of the variables are significant. In the next step, all PSF characteristic variables were included and the process of backward elimination performed to arrive at the final model. None of the variables was retained in the final model. The logistical regression analysis was repeated for the second set of PSF related variables that capture what firms do to enhance their reputation or reduce the uncertainty arising from the intangible nature of the service. Again, none of the relationships were significant at conventional levels.

Clearly, PSF variables do not appear to play a significant role in the decision whether or not to set up an office of a permanent nature. However, there is overwhelming evidence in interviews from both phases of the study that face to face client-consultant interaction during various stages of project execution, starting from the prebidding stage, is very important. In other words, *some form* of physical presence is crucial. In fact, the first phase of the study clearly draws attention to the fact that decisions about physical presence and the form of physical presence in the host country need to be evaluated from two points of reference. One, with reference to the logistics of executing a project and two, from a marketing standpoint that extends beyond a single project in the host country. It made sense, therefore, to investigate if the need for some form of physical presence at the project level was being triggered by specific PSF factors. An OLS regression analysis was performed regressing the "need for face to face interaction" on PSF characteristics, that is, reputation for technical competence, reputation at a relational level, intangibility, customization, dominance of human assets (overheads), and the nature of human capital. The results are presented in Table 5-9. The regression analysis was repeated to test the relationship between the reputation enhancing and uncertainty reducing PSF variables and the "need for face to face interaction". The results are reported in Table 5-10.

Table 5-9: Results of OLS Regression Analysis for Importance of face to face interaction – PSF characteristics

Importance of client consultant face to face interaction	Model 1 (after backward elimination)
Reputation – relational level	**0.321***** (0.10)
Degree of customization	**0.160*** (0.09)
Dominance of human assets – overheads	**-0.011***** (0.00)
Intercept	3.020*** (0.67)
R*2	0.383

[1] standard errors are in parentheses, N=39

* p < .10 ** p < .05 *** p < .01

Table 5-9 reports the final model after the process of backward elimination. Three variables were found to be significantly related to the "need for face to face interaction" and were retained in the final model. First, there is a positive and significant relationship between the importance of reputation for good relationship building skills and the need for face to face interaction. This implies that firms that emphasize the reputation for relationship building with the client rate highly the need for face to face interaction and, in effect, the importance of some form of physical presence. Second, there is a positive and significant relationship between the degree of customization and the need for face to face interaction. In other words, a higher degree of customization of projects increases the need for face to face interaction. Third, there is a negative and significant relationship between the level of overheads on account of personnel and the need for face to face interaction. Higher overheads are likely to deter face to face interaction or any form of physical presence of personnel in the host country.

The OLS regression analysis was repeated for the reputation enhancing and uncertainty reducing PSF variables. Model 1 reported in Table 5-10 suggests that the need for face to face interaction is positively and significantly related to the importance of interaction in the prebidding stage demonstrating prior experience to build credibility and to deal with uncertainty. Firms that emphasize the importance of interaction in the prebidding or initial stage and demonstration of the firm's past experience to build credibility and reduce uncertainty in the minds of clients are likely to value highly the need for face to face interaction or some form of physical presence.

Table 5-10: Results of OLS Regression Analysis for Importance of face to face interaction – PSF characteristics

Importance of client consultant face to face interaction	Model 1
Demonstrating past experience and continuous interaction in prebidding/initial stages	**0.300**** (0.14)
Role of references	-0.019 (0.09)
Rapport with client based on past working relationship	0.077 (0.09)
Intercept	2.883*** (0.65)
R*2	0.145

^{1} standard errors are in parentheses, N=39

* $p < .10$ ** $p < .05$ *** $p < .01$

Overall, it is clear from the above analysis that the PSF variables are critical for having some form of physical presence in the host country but are not deterministic as far as setting up an office is concerned. This also validates the observation made in the first phase of the concept of physical presence as is relevant to the actual process of project execution and physical presence for a marketing objective to facilitate a firm's progression from project to project. Later in this chapter, the section on transaction cost issues demonstrates the role of PSF characteristics as mitigators of the threat of opportunism or protection of knowledge concerns of these firms.

Continuing legal form. First, the relationship between each of the PSF constructs and the continuing legal form variable was examined. The logistic regression analysis did not reveal any significant relationship. The analysis was repeated with all the variables in the model but reduced by a backward elimination process. None of the variables was retained in the model. Finally, the continuing legal form variable was regressed on the three variables capturing what the firms do to enhance their reputation or reduce uncertainty due to intangibility. Again, none of the variables were significant. Clearly, PSF variables do not appear to play a significant role in the decision whether or not to establish a continuing legal arrangement. An examination of correlations between PSF variables and the *type* of legal form, sole venture versus parternship did not reveal any significant association.

A direct relationship between the PSF factors and the continuing legal form decision was not visible in the first phase of the study either. Past research does not explicitly explore the direct relationship between PSF variables and the decision to set up a continuing legal form or the type of legal form.

Degree of presence. Table 5-11 reports the results of the OLS regression analysis of PSF characteristics predicting the degree of presence. First, variables measuring each PSF variable were regressed separately on the degree of presence. Second, all the variables were included in the regression analysis. Model 1 is the full model and provides estimates of coefficients of PSF variables including the importance of reputation, the degree of intangibility, the need for client consultant interaction, degree of customization, and the nature of human assets. Three variables, that is, the degree of customization, the nature of human capital, and the importance of reputation are significantly related to the degree of presence. After the process of backward elimination the same three variables are retained in the final model. Model 1a presents the coefficients of the degree of customization variable, the nature of human capital, and the importance of reputation retained after the process of backward elimination. There is a significant and positive relationship between the degree of customization and the degree of presence in a country.

The second variable the nature of human capital is also positively and significantly related to the degree of presence. This suggests that the more the firms perceive the nature of human assets as being less replicable and their business as knowledge intensive where you are as good as the people employed, the greater the degree of presence. Finally, reputation is significantly but negatively associated with the degree of presence. Firms that perceive more highly the importance of reputation for relationship building skills as more important appear to have a lower degree of presence.

The OLS regression analysis was repeated to examine the effect on the degree of presence of what firms do to enhance their reputation and to reduce the effect of intangibility. None of the three variables significantly impact the degree of presence.

Table 5-11: Results of OLS Regression Analysis for Degree of Presence – PSF characteristics[1]

Variable	Model 1	Model 1a (after backward elimination)
Reputation-technical level	-0.225 (0.29)	
Reputation – relational level	-0.287 (0.21)	**0.295** * (0.17)
Degree of intangibility	-0.069 (0.17)	
Importance of client-consultant interaction	0.025 (0.305)	
Degree of customization	**0.339** * (0.17)	**0.362** ** (0.16)
Importance of human assets-overheads	-0.008 (0.008)	
Nature of human assets	**0.492** * (0.27)	**0.402** * (0.24)
Intercept		-0.392 (1.42)
R*2		0.223

[1] standard errors are in parentheses, N=39 $^{*}p < .10$ $^{**}p < .05$ $^{***}p < .01$

In summary, the degree of customization, the perception about the nature of human assets, and reputation for relationship building skills have a significant relationship with the degree of presence in a host country.

Discussion: The role of PSF characteristics in the entry mode process

Overheads arising from people being the dominant assets appear to constrain a client following strategy as well as the need for a physical presence in the host country. Client following is discouraged on account of high overheads because known clients are often more demanding in terms of the specific staff they would like allocated to their projects and also insist on that staff being physically present in the host country. Physical presence in the host country is expensive whether it takes the form of frequent visits and a temporary stay or an office. This is also corroborated by the other result that indicates that a higher need for client-consultant interaction predicts a low likelihood of a client following strategy. Both personnel related overheads and client-consultant interaction appeared as consistently important in the first phase interviews. However, the relationships between these factors and the choice of a client following strategy was not apparent. The relationship becomes clear in the second phase of the study and confirms that the dominance of human assets and the need for client-consultant interaction are both important to the entry mode process.

Reputation for both technical competence and building a good working relationship with clients and business partners was observed to be critical in the first phase of the study in the context of entry mode. In fact, firms tend to differentiate themselves more on a reputation for relationship building skills. The role of reputation in affecting different aspects of the entry mode process is clarified in the second phase. The importance of reputation at a relational level appears to emphasize the need for face to face interaction or some form of physical presence. A more interesting relationship is seen between the degree of presence and the reputation for managing good relationships. Firms with a relatively lower degree of presence perceive a greater role of reputation for managing a good working relationship and rapport with the client and business partners. Firms that are relatively new on the international scene tend to be more concerned about their reputation at both the technical and relational level than are firms that are already well established and have a high degree of presence in a country. Firms with little international experience are also likely to have little to show by virtue of technical competence globally. So they are likely to perceive the importance of building their reputation on a relational level as a means of differentiating themselves from competitors and vying for more projects.

The degree of intangibility did not emerge as significant but what the firms do to reduce uncertainty arising from intangibility and for building credibility was found to be significant. The importance of demonstrating past experience and maintaining continuous interaction with the client in the prebidding/initial stages of a project to win a client's confidence encourages the need for face to face interaction. Some form of physical presence is imperative. The interviewees described the demonstration of past experience to clients as showing them pictures of project sites or completed buildings and often driving the client around the city to physically show examples of past work. This is feasible even through temporary visits and does not require establishing a sales office or a design office.

The degree of customization is relevant for at least two aspects of entry mode, physical presence and the degree of presence. A higher degree of customization predicts the need for a physical presence. Again, like the role of the importance of reputation, the need for customization is not deterministic in predicting the type of physical presence but it emphasizes the need for some form of physical presence. The degree of customization also predicts a higher degree of presence in the host country. Firms that perceive a higher degree of customization, in that there is no cook book formula for any design, happen to have a higher degree of presence in the host country. Some of the basic concepts apply but when and where to apply them is customized to a project. A high degree of customization suggests that every project has a certain degree of uniqueness and requires innovation. This ensures demand for the firm's expertise. If the degree of standardization is greater there is a possibility of local firms becoming equally competitive and weeding out the more expensive international firms from the market.

While on the one hand human assets impose certain constraints on the entry mode process, their basic nature in terms of being difficult to replicate can serve as a source of advantage for the firm. The "unreplicable" nature of human capital can help a firm maintain its competitive advantage in the quality of people it has and enhance its presence in a country. The challenge for these firms is to retain its quality staff.

It is evident that the different PSF characteristics play a significant role in different aspects of the entry mode process. One dimension that the PSF factors do not appear to have any direct impact on is the decision about establishing a continuing legal form and subsequently the type of legal form. No direct relationship was observed in the first phase of the study either. As for the physical presence dimension, the PSF characteristics are not deterministic in predicting the establishment of an office. However, they clearly explain why some form of physical presence is imperative. It is important to note that the need for physical presence is critical at the project level as the process of reputation building, relationship building, alleviating uncertainty arising from intangibility, and customizing solutions all occur at the project level. Managing the process of creating and delivering the service which is, essentially, the process of executing a project has repercussions for future project opportunities. Thus the physical presence required at this level is a significant component of the entry mode process. For every firm the mode of entry into a country is a "project" but subsequently a "cumulation of projects" and it is the latter that leads different firms to be at different stages of the process of entry and thus, different degrees of permanency. This is, therefore, an important dimension of the mode of entry and the extent to which projects cumulate to consider the firm to have "entered" the country on a more permanent basis. The objective of physical presence at the level of project execution and the marketing objective are not mutually exclusive but both working towards ensuring a continuing flow of projects. The results in the second phase confirm the notion of physical presence at two levels as identified in the first phase. This phase of the study also clarifies how PSF characteristics operate with respect to client following, and the degree of presence aspects of entry mode.

Knowledge

The knowledge construct is represented by two sets of variables. First, those that capture the nature of three types of knowledge, individually held, team held and organizationally held. Second, those that capture the replication of knowledge. Relationships between these knowledge variables and the different aspects of entry mode were examined. Tables 5-12, 5-13, and 5-14 present the results of logistical regression analysis for the focus, physical presence and continuing legal form decisions respectively. The OLS regression analysis for the degree of presence is reported in Table 5-16. Model 1 examines the relationship between the types of knowledge variables and each entry mode dimension. Model 2 estimates the relationship between the replication of knowledge variables and the different dimensions of entry mode. Model 3 includes all the knowledge variables and shows estimates after the backward elimination regression procedure.

Project versus market focus. The logistic regression analysis examining the relationship between the project versus market focus and types of knowledge did not yield any significant relationships. Similarly, none of the replication of knowledge variables are significant. In the next step, the nature of knowledge variables and the replication of knowledge variables were all included in the regression analysis and the process of backward elimination performed. None of the variables was retained.

Client-following focus. Table 5-12 reports the results of the logistic regression analysis examining the relationship between types of knowledge and a client-following focus. Model 1 suggests that there is significant but negative relationship between the importance of experiential technical knowledge held in individuals and the likelihood of following the client into a host country. Model 2 estimates the relationship with the replication of knowledge variables and indicates that none of these are significantly related to the client-following decision. Model 3, which includes all knowledge variables, indicates that individually held experiential technical knowledge is the only variable retained after the backward elimination procedure. It is significantly and negatively related to the likelihood of a client following focus. This suggests that the more important the individually held experiential knowledge is perceived to be, the less the likelihood of a firm following a client into a host country.

Table 5-12: Results of Logistic Regression Analysis for Client-following Focus – Knowledge[1]

Variable	Model 1	Model 2	Model 3 (full model)	Model 3 (final model after backward elimination)
Individually held knowledge – experiential technical	**-1.825** ** (0.91)		**-1.675** * (0.93)	**-1.439** * (0.82)
Individually held knowledge – relational	-0.295 (0.49)		-0.299 (0.55)	
Team held knowledge	-0.119 (0.58)		-0.061 (0.58)	
Knowledge of organizing	0.935 (0.63)		0.894 (0.62)	
Intercept	4.883 (5.18)			
χ^2	6.497 (df 4)			
Difficulty in copying individually held knowledge		-0.124 (0.35)	-0.001 (0.400)	
Extent of possibility of replicating team based knowledge		0.354 (0.42)	0.269 (0.49)	
Intercept		-1.074 (1.81)	3.562 (5.57)	5.525 (3.50)
χ^2		0.946 (df 2)	6.403 (df 6)	3.401 * (df 1)

[1] standard errors are in parentheses, N=39 * $p < .10$ ** $p < .05$ *** $p < .01$

In summary, the importance of experiential technical knowledge held in individuals is likely to dissuade a firm from following a client into the host country.

Physical presence. Model 1 in Table 5-13 reports the estimates of the coefficients for the three nature of knowledge variables. The importance of the experiential technical knowledge held by individuals is significantly and negatively related to the likelihood of setting up a physical presence in the form of a permanent office such as a sales office or a design office. Model 2 provides the coefficients for the two replication of knowledge variables, that is, difficulty in replicating individually held knowledge and team held knowledge variables respectively. There is a significant but negative relationship between the difficulty in copying individually held knowledge and the likelihood of establishing a sales or design office. The more individually held knowledge is perceived as difficult to replicate the less the chance that the firm will establish a permanent office in the host country.

Model 3 includes the nature of knowledge variables as well as the difficulty in replication of knowledge variables. After a backward elimination process, the results reveal that only the difficulty in copying individually held knowledge is retained. The relationship with physical presence is significant and negative as was the case in Model 2.

Table 5-13: Results of Logistic Regression Analysis for Physical Presence – Knowledge[1]

Variable	Model 1	Model 2	Model 3 (full model)	Model 3 (after backward elimination)
Individually held knowledge – experiential technical	**-1.261** * (0.75)		-0.983 (0.82)	
Individually held knowledge – relational	0.226 (0.45)		0.294 (0.52)	
Team held knowledge	0.039 (0.53)		0.209 (0.56)	
Knowledge of organizing	0.385 (0.546)		0.388 (0.58)	
Intercept	2.608 (4.38)			
χ^2	3.893 (df 3)			
Difficulty in copying individually held knowledge		**-0.664** * (0.37)	**-0.677** * (0.388)	**-0.688** * (0.365)
Extent of possibility of replicating team based knowledge		0.209 (0.42)	0.217 (0.45)	
Intercept		1.844 (1.84)	2.426 (5.15)	2.454 (1.402)
χ^2 (df 2)		4.233 (df 2)	6.844 df (6)	3.989 df (1)

[1] standard errors are in parentheses, N=39 * $p < .10$ ** $p < .05$ *** $p < .01$

In summary, the importance of individually held experiential knowledge, which represents experience in the application of technical knowledge and in adapting to clients' needs, and the difficulty in its replication reduce the likelihood of a firm setting up a physical presence in the form of a permanent office.

Continuing legal form. In Table 5-14, Model 1 reveals that there is a significant and positive relationship between the need to provide the knowledge of organizing and managing a project and the likelihood of establishing a continuing legal arrangement in the host country. Individually held experiential technical knowledge, on the other hand, is significantly but negatively related to a continuing legal form relationship. The more important the individually held knowledge is perceived to be the less the likelihood of setting up a continuing legal arrangement.

Table 5-14: Results of Logistic Regression Analysis for Legal Form – Knowledge[1]

Variable	Model 1	Model 2	Model 3 (full)	Model 3 (final model after backward elimination)
Individually held knowledge – experiential technical	**-1.779** ** (0.88)		**-1.740** * (0.93)	**-1.680** * (0.89)
Individually held knowledge – relational	0.151 (0.51)		-0.017 (0.59)	
Team held knowledge	0.343 (0.62)		0.406 (0.64)	
Knowledge of organizing	**2.020** *** (0.84)		**2.082** *** (0.90)	**2.007** *** (0.81)
Intercept	-2.335 (5.54)			-0.717 (4.59)
χ^2	13.872 *** (df 4)			
Difficulty in copying individually held knowledge		-0.156 (0.34)	-0.196 (0.43)	
Extent of possibility of replicating team based knowledge		-0.0045 (0.41)	-0.229 (0.55)	
Intercept		0.912 (1.77)	-0.988 (6.15)	
χ^2		0.220 (df 2)	12.989 ** (df 6)	12.304 *** (df 2)

[1] standard errors are in parentheses, N=39 * p < .10 ** p < .05 *** p < .01

Model 2 reports the coefficients for the two replication of knowledge variables. Neither of the two variables is significant. Model 3 includes all the five knowledge variables. Again, the knowledge of organizing and the individually embedded technical experiential knowledge are significantly related to the continuing legal form decision variable.

In sum, knowledge of organizing points to a greater likelihood of setting up a continuing legal arrangement in the host country and the individually held knowledge is more likely to constrain the establishment of a continuing legal form.

Type of continuing legal form. The next step was to explore whether the knowledge variables, both types of knowledge and replication of knowledge variables, predict the decision regarding the type of legal form. Correlations between the type of legal form and all the knowledge variables were examined. The correlation matrix is presented in Table 5-15.

Table 5-15: Bivariate Correlation coefficients for Knowledge variables and the Type of Legal Form.

Variable	1	2	3	4	5	6	7
1. Individually held knowledge - experiential technical	1.00						
2. Individually held knowledge - relational	-0.02	1.00					
3. Team based knowledge	-0.18	0.04	1.00				
4. Knowledge of organizing	0.11	0.12	0.16	1.00			
5. Difficulty in replicating individually held knowledge	0.17	0.30	-0.06	-0.01	1.00		
6. Extent of possibility of replicating team held knowledge	0.09	-0.29	-0.03	0.16	0.08	1.00	
7. Type of legal form	0.01	0.23	0.18	0.16	-0.37*	-0.13	1.00

*p < .10 **p < .05 ***p < .01

There is a significant negative correlation between the type of legal form and the difficulty in copying individually held knowledge. The more a firm perceives individually held knowledge to be difficult to copy the more that firm may be inclined to establish a partnership arrangement. The knowledge of organizing which is important to the decision to set up a continuing legal form does not appear to be significant to the choice between a solely owned venture and a partnership arrangement. However, an examination of the means (not reported) suggested that the mean score given to the importance of the knowledge of organizing was higher for the solely owned category than for the partnership category.

In sum, of the firms that do set up a continuing legal form those that perceive the difficulty in copying individually held knowledge to be higher may be more open or inclined to go in for a partnership arrangement.

Degree of Presence. Table 5-16 reports the results of a regression analysis testing the relationship between the knowledge variables and the degree of presence. Model 1 indicates that the none of the three types of knowledge, individually held, team based, and knowledge of organizing are significantly related to the degree of presence . Model 2 estimates the coefficients for the replication of knowledge variables, that is, difficulty in replicating individually held knowledge and team held knowledge respectively. There is a significant and negative relationship between the difficulty in copying individually held knowledge and the degree of presence. The next step was to include all the knowledge variables in the regression analysis. Model 3 reports the results of the regression after the process of backward elimination of variables. Difficulty in copying individually held knowledge is retained in the final model. The relationship suggests that the more difficult copying of individually held knowledge is perceived to be the lower the degree of presence.

Table 5-16: Results of OLS Regression Analysis for Degree of Presence - Knowledge[1]

Variable	Model 1	Model 2	Model 3 (after backward elimination)
Individually held knowledge – experiential technical	-0.081 (0.55)		
Individually held knowledge – relational	-0.426 (0.67)		
Team held knowledge	-0.148 (0.20)		
Knowledge of organizing	-0.026 (0.21)		
Intercept	4.810 (1.68)		
R*2	0.083		
Difficulty in copying individually held knowledge		**-0.361***** (0.120)	**-0.338***** (0.12)
Extent of possibility of replicating team based knowledge		-0.184 (0.146)	
Intercept		3.716*** (0.624)	3.177*** (0.46)
R*2		0.218***	0.182***

[1] standard errors are in parentheses, N=39 * $p < .10$ ** $p < .05$ *** $p < .01$

In summary, there is negative relationship between the difficulty in copying individually held knowledge and the degree of presence. This perception that individually held knowledge is difficult to copy may constrain a firm's presence in a country or even the overall degree of internationalization as the firm would take on only as much as its current staff can handle.

Discussion: The role of knowledge in the entry mode process

The different types of knowledge clearly have an important role in the entry mode process. Individually held experiential knowledge and the difficulty in its replication appears to be most critical to the different aspects of entry mode. Individually held knowledge comprises the experience in application of technical knowledge and its adaptation to clients' diverse needs vested in staff members. This knowledge and the difficulty in its replication are critical to the client following decision, physical presence, continuing legal form, and the degree of presence. The knowledge of organizing is important to the decision about setting up a continuing legal arrangement in the host country. Team held knowledge does not emerge as significant for any aspect of entry mode. The results are discussed below.

The relationship between the nature of knowledge and the type of focus was not observed in the first phase. It becomes clearer in the second phase analysis, which suggests that the importance of individually held experiential knowledge is likely to discourage firms from following clients. This can be explained in the context of open-ended discussions with interviewees. Following the client involves a long-term commitment of resources, which are primarily human assets. It may also require physical presence of some of the staff in the host country on the client's demand. Knowledge vested in individuals cannot be easily replicated which means committing key personnel to one client would make them unavailable for other projects. Since following a client may call for committing key personnel to that client, it may not be in the best interest of the rest of the business. One thing that came out quite strongly in the interviews with the Alberta firms was that most of them would like to protect their domestic business and therefore, not jeopardize the expectations and interests of domestic clients. Non-availability of specific staff can often irk domestic clients, which may dissuade a firm from following a client into a country.

As for the decision about the type of physical presence in the host country, issues around knowledge held by individuals surfaced in the first phase of the study.

Setting up another office requires more staff and a concern for maintaining consistency in quality of human assets across offices of the firm was expressed in many interviews. The second phase confirms this concern. This is a challenge when people are the dominant asset and hold the basic knowledge or resource base of the firm. Difficulty in replicating knowledge held by people can be a hindrance to setting up an office, especially a full design outfit. Full-fledged design offices usually have a legal status. Accordingly, the importance of individually held knowledge also reduces the possibility of setting up a continuing legal form in the host country. Firms that do set up a continuing legal form, which may be triggered by other factors such as government regulations, have to make a decision about the type of legal form, that is, the solely owned venture versus partnership decision. Difficulty in replicating individually held knowledge also plays a role in this decision as firms that perceive more strongly the difficulty in replicating individually held knowledge might be more inclined to partnerships. This seems to suggest that the embedded nature of the knowledge held in individuals makes copying difficult which in turn reduces or mitigates the threat of misappropriation of that knowledge by a partner firm. This draws attention to the importance of understanding what the knowledge is about and where it is held. This is also confirmed later in the analysis on the role of opportunism in the entry mode decisions.

The importance of knowledge of organizing and managing a project is likely to encourage a firm to set up a continuing legal form in the host country. In the first phase of the study, there was some indication that firms that delivered the whole complement of service including organizing and coordinating the project through the various stages did eventually set up a continuing organizational form in the host country. At the same time, as mentioned earlier firms that rated individually held experiential knowledge very highly were more reluctant to set up another outfit in the host country because replicating people with the same level of knowledge was not easy.

The importance of individually held knowledge and the need to provide the knowledge of organizing are, therefore, pulling the decision to set up a continuing legal arrangement in opposite directions. Larger firms in particular face this dilemma. They usually have the responsibility of all stages of a project right up to the supervision of construction. Often their input, in terms of providing the organizational and managerial expertise, is even more important than the technical knowledge. It is likely that a firm involved in the organizational aspects of projects is in a country for long periods of time and also needs to give the client the confidence that they are there to stay. Establishing a permanent legal arrangement is a form of signaling commitment.

Surprisingly, team held knowledge did not emerge as a significant factor with respect to any of the entry mode aspects. This was unexpected given the emphasis on team held knowledge in the first phase of the study. In a project based business, teams are critical and team held knowledge is likely to be even more challenging to replicate than individually held knowledge which is likely to have repercussions for the various dimensions of entry mode. An analysis of the open-ended discussions in the second phase reflected the dilemma these firms face with respect to teams. On the one hand, they understand the value and the necessity of building teams to allow long term synergies to develop but on the other hand they find it difficult to preserve a core team or a few teams as the scale of project work increases. Teams, especially in larger firms, are continuously created and disbanded to cope with the project load. This conflict may be part of the reason for team held knowledge not manifesting itself as a significant factor in the second phase.

The knowledge that the firms bring to bear upon the process of their service creation and delivery clearly plays a critical role in the entry mode decisions. This section sheds light on the importance of understanding what the knowledge is about and where it is held in order to understand its repercussions for different aspects of the entry mode process. The analysis on transaction costs issues in the next section further clarifies how explicating the notion of knowledge can help understand how the threat of opportunism plays out in the context of entry mode decisions.

Transaction Cost Variables – Opportunism

In this section, the relationships between different aspects of entry mode and transaction costs variables are examined. The section is organized in two parts. First, the role of the threat of opportunism from business partners is examined. Second, the impact of the threat of opportunism from clients on different aspects of entry mode is investigated.

Threat of opportunism from business partners

Based on the past entry mode literature and observations in the first phase of the study, the threat of opportunism from business partners appears to be directly relevant to the decision about legal form. Accordingly, the relationship between the threat of opportunism from business partners and the decision whether or not to set up a legal form is examined. This is followed by a test of the role of various mitigators of opportunism. Second, the relationship between the threat of opportunism from business partners and the choice of type legal form, solely owned versus partnership, is examined. The analysis of the role of opportunism in the choice of type of legal form is dealt with in some detail.

Continuing legal form. An examination of the correlation between the decision whether to set up a continuing legal form or not and the threat of opportunism from business partners reveals that there is no significant association between the two variables. The Pearson correlation is 0.24, which is not significant at conventional levels of significance. The frequency of responses to the degree of threat of opportunism reveal that 77% of the respondents perceive the threat of opportunism from business partners as important "to no extent" or "to a small extent". About 16% rate it as important to a fair extent. The remaining 7% rate it as important to a considerable extent.

Clearly, the threat of opportunism from business partners does not predict whether or not the firm sets up a continuing legal form in the host country. The next step was to examine the role of factors that were identified in the first phase as playing the role of mitigating opportunism. There are a number of factors that emerged in the first phase as potential mitigators of the threat of opportunism from business partners. These include the difficulty in replicating individually held knowledge, the importance of ethical behavior, including not misrepresenting facts and copying, to maintain long-term relationships, past accumulated technical and relational knowledge in a firm and embedded knowledge in teams and in the organization. In the second phase, more specific questions were asked about the nature of knowledge and its implications for mitigating opportunism. Table 5-17 reports the results of logistical regression analysis of the factors mitigating opportunism predicting whether or not the firm would set up a continuing legal presence in the host country. Model 1 shows that the embeddedness of team held and organizationally held knowledge is significantly but negatively related to the decision to set up a continuing legal arrangement.

Table 5-17: Results of Logistic Regression Analysis for Legal form –Factors mitigating opportunism

Variable	Model 1
Difficulty in copying individually held knowledge	-0.193 (0.38)
Deterrent to misrepresenting and copy	0.237 (0.36)
Past accumulated experience	0.160 (0.36)
Embeddedness of knowledge	**-0.659** * (0.385)
Intercept	0.374 (0.36)
χ^2	4.100 (df 4)

[1] standard errors are in parentheses, N=39

$^{*}p < .10$ $^{**}p < .05$ $^{***}p < .01$

Thus, the embeddedness of team held and organizationally held knowledge reduces the likelihood of establishing a continuing legal presence in the host country. Knowledge embedded in teams and the organization is difficult to copy.

To further confirm the role of mitigators of opportunism, the threat of opportunism variable was regressed on the four factors. The regression results again revealed a significant relationship between the embeddedness of team held and organizationally held knowledge and the threat of opportunism. In other words, the higher the embeddedness of knowledge held in teams and the organization is perceived to be the more it deters opportunism. These kinds of knowledge are difficult to copy or walk away with which reduces the threat of opportunism.

Type of continuing legal form. The next step was to examine if there is a significant relationship between the threat of opportunism from business partners and the choice of legal form, solely owned ventures versus partnerships. The Pearson correlation between the two variables is 0.07 which is not significant at conventional levels of significance. Thus, there is no significant association between the threat of opportunism from business partners and the choice of type of legal form.

The insignificance of the threat of business partners walking away with knowledge or reusing designs is a key finding. It warrants further exploration because in the entry mode research one of the key determinants of the choice between different legal forms, the traditional way of defining entry mode in the literature, is the risk of misappropriation of knowledge by licensees and business partners. Due to the significance of this issue, in the second phase of my study I had a specific question in the interview schedule asking the respondents to rate the extent to which they perceived the protection of knowledge as a deterrent to entering into any form of partnership (Q D5b in Appendix D). The mean score for this was found to be 1.9 on a scale of 1=to no extent through 3=to a fair extent to 5=to a great extent. Nearly 85% of the respondents considered protection of knowledge concerns as a deterrent to no extent or to a small extent. Regression analysis was performed to examine the effect of relationship factors and PSF factors on the perception of protection of knowledge as a concern for the choice of a partnership form. Tables 5-18 and 5-19 present the results of the regression analyses. In addition, another regression was done to examine which of the mitigators of opportunism had a significant role in reducing the concern for protection of knowledge. The results are reported in Table 5-20.

Table 5-18: Results of OLS Regression Analysis – Relationships[1]

Variable	Model 1	Model 2
Relationships in host country	0.160	
	(0.14)	
Relationships in home country	0.009	
	(0.22)	
Relationship with client	**-0.417** **	
	(0.18)	
Intercept	2.068 ***	
	(0.16)	
R*2	0.16	
Relationship building with client and home country firm		**-0.085** *
		(0.05)
Relationship building with a host country firm		0.091
		(0.07)
Relationship building with the business networks in the host country		**-0.107** *
		(0.06)
Intercept		2.577 ***
		(0.38)
R*2		0.16

[1] standard errors are in parentheses, N=39

* p < .10 ** p < .05 *** p < .01

Table 5-19: Results of OLS Regression Analysis – PSF characteristics[1]

Variable	Model 1
Reputation	0.267
	(0.17)
Degree of Intangibility	**-0.225** **
	(0.10)
Importance of client-consultant interaction	**-0.588** ***
	(0.15)
Degree of customization	-0.109
	(0.10)
Nature of human assets	**-0.440** **
	(0.17)
Intercept	6.841 ***
	(1.12)
R*2	0.47

[1] standard errors are in parentheses, N=39

* p < .10 ** p < .05 *** p < .01

Table 5-20: Results of OLS Regression Analysis – Mitigators of Opportunism[1]

Variable	Model 1
Difficulty in copying individually held knowledge	-0.022
	(0.09)
Importance of ethical behavior to for long-term relationships	0.006
	(0.09)
Past accumulated experience	**-0.20** *
	(0.09)
Embeddedness of knowledge held in a team or an organization	0.045
	(0.09)
Intercept	1.944
	(0.09)
R*2	0.11

[1] standard errors are in parentheses, N=39

* p < .10 ** p < .05 *** p < .01

Based on the regression results, factors that are important in minimizing concern for protection of knowledge include the following: prior relationship with client; relationship building with home based firms; relationship building with business networks in the host country; the extent of intangibility of service; the need for face to face interaction with the client; and the nature of human assets as having their own idiosyncratic quality and not being replicable like machines. Also, among the mitigators of opportunism past accumulated experiential knowledge, comprising the reservoir of technical expertise and relationships built over time in the firm, appears to be important in alleviating the concern for protection of knowledge when choosing a legal form.

To summarize, the threat of *opportunism from business partners* is not perceived to be significant in the decision to set up a continuing legal presence or for the type of presence. As for the second decision, that is, the choice made between a solely owned venture and a partnership, again the analysis suggests that the threat of opportunistic behavior is not perceived to be a deterrent to choosing a partnership arrangement. This confirms what consistently emerged in the first phase of the study. Further analysis of the extent to which the protection of knowledge might be a concern in choosing a partnership form reveals a number of factors as being instrumental in reducing the concern. These include building a relationship with the client, home country firms, and business networks; the degree of intangibility of service; the nature of human capital in terms of its difficulty in replication; the importance of interaction between the client and consultant; and the past accumulated technical and relational knowledge embedded in a firm. These factors reduce the concern for protection of knowledge as a deterrent to partner with another firm.

Discussion: The role of transaction costs issues in the entry mode process

One of the most significant findings of the second phase of the study is about the negligible role of the threat of opportunism from business partners with respect to the choice of legal form decisions. The threat of opportunism is not a significant factor in determining whether or not the firm should establish a continuing legal form. Further, it does not predict the choice of legal form, solely owned versus partnerships. There was overwhelming evidence in the first phase of the study that protection of knowledge for the risk of being misappropriated was not a major concern in these firms. This continues to be supported in the second phase. Further, the study sheds light on the factors that are instrumental in mitigating opportunism. These are mainly knowledge related factors. The embeddedness of individually held, team held, and organizationally held knowledge makes it difficult to misappropriate the knowledge. What is particularly difficult to replicate or recreate is the past accumulated base of technical and relational knowledge in the firm built over time. Given this difficult to copy source of advantage of these firms, the threat of opportunism from business partners is of little concern. Other factors that appear to be important in minimizing the concerns about protection of knowledge when choosing the type of legal form include PSF factors and relationships. Among the PSF factors, the degree of intangibility of service, the importance of client-consultant interaction, and the nature of human capital in being difficult to replicate, unlike machines, help reduce the threat of opportunism. Relationship building with clients and other professional firms in the home and host countries also contribute to allaying the fear of misappropriation of knowledge.

Past entry mode research applies transaction costs theory as the dominant paradigm for exploring these choices. It suggests that knowledge has certain transactional characteristics that make its transfer susceptible to opportunism from business partners, which points towards a solely owned venture as the appropriate choice (Williamson, 1975; Teece, 1981; Hennart, 1988). An alternative perspective draws attention to the attributes of knowledge rather than opportunism in choosing the mode of transfer. The issues about knowledge that have become evident in this study are more akin to the second perspective. In fact, this study goes a step further in trying to highlight the attributes of knowledge by expanding the concept of knowledge in terms of what it is about and where it is held. When knowledge is embedded it is difficult to copy and misappropriate. With the fear of opportunism not being an overriding concern one can deduce that these firms have more options or flexibility in the choice of legal form.

Threat of opportunism from clients

Relationships between the threat of opportunism from clients and the different aspects of entry mode were tested. Correlations between the threat of opportunism from clients and the project versus market focus, client following focus, physical presence, and continuing legal form respectively are presented in Table 5-21.

Table 5-21: Bivariate Correlations between the Entry Mode dimensions and the Client Opportunism

	Threat of opportunism from clients
Project versus Market focus	**-0.45*****
Client following focus	0.19
Physical presence	0.33*
Continuing legal form	**0.40****

$p < .10^{*}$ $p < .05^{**}$ $^{***}p < .01^{***}$

Project versus market focus. The correlations indicate that there is a significant but negative association between the threat of opportunism from clients and a project versus market focus. Firms perceiving a lower threat of client side opportunism are more likely to adopt a project focus.

Client following focus. The Pearson correlation between the threat of opportunism from clients and a client following strategy is 0.19 which is not significant at the conventional levels of significance. This makes sense because a client following situation arises only where the firm already knows the client well.

Physical Presence. A correlation of 0.33 between the opportunism from clients and the physical presence decision is significant at the 0.1 level. This suggests that if clients are perceived to behave opportunistically the firms may be more inclined to set up an office in the host country.

Continuing legal form. The correlations in Table 5-21 also indicate that there is a positive and significant association between the threat of opportunism from clients and the decision about setting up a continuing legal arrangement. This implies that the firms that perceive the threat of client-side opportunism to be higher will tend more towards the idea of establishing a continuing legal arrangement.

Discussion: Threat of opportunism from clients

In the first phase of the study, there were some examples that illustrated clients' propensity to behave opportunistically by either walking away with a firm's ideas at a very early stage and hiring a cheaper consulting firm or pulling the plug at a later stage of the project. However, its implications for the different aspects of entry mode were not obvious. The second phase makes clear the role of client-side opportunism in the entry mode process. In fact, it turns out that client side opportunism is more of a concern than the threat of opportunism from business partners. Client side opportunism has implications for the project versus market decision, physical presence decision, and the continuing legal form decision.

The results suggest that firms that perceive a greater threat of opportunism are less likely to follow a specific project into the host country. This is, indeed, a common sense argument that a firm will not even accept a project if it anticipates that the client might behave opportunistically.

Client side opportunism is likely to encourage a firm to set up an office in the host country. Based on the interviews in the first phase and the open-ended discussions in the second phase, this seems more like a two-way relationship. Clients often prefer firms to have a physical presence that represents some form of investment and thus, a commitment in the host country. This in turn invokes commitment on the part of the clients. A physical presence also helps when there are many competing consulting firms, making it easier for clients to get some good design ideas in the initial stages and move on to cheaper consulting firms. Thus, having a physical presence may actually assist in curbing client opportunism.

Firms which perceive a higher level of opportunism from clients are also more likely to set up a continuing legal form in the host country. A possible explanation for a higher perception of client opportunism actually encouraging setting up a continuing legal presence is that it signals stability to the client. Increasing the comfort level of the client and facilitating a relationship based on credibility and trust may reduce the likelihood of opportunism. It does not matter, however, whether the firm sets up a partnership form of venture or a solely owned venture. There is no significant difference in how the client opportunism is perceived between the partnership form and the solely owned venture form.

Global economies

The first phase of the study revealed that engineering consulting firms derive global economies from sharing staff and office space and from the use of teams. These are likely to have implications for the physical presence decision, that is, whether or not the firm sets up a permanent office in the host country. These relationships are more systematically examined in this phase.

Economies arising from the existing network of offices and sharing of staff. Sharing of staff and office space seems to be a common practice in this industry. Often firms avoid setting up an office in the host country if there is an office existing in another country in the region. In the second phase of the study the relationship between the existing network of offices world-wide and likelihood of an office in the host country was tested more systematically. The correlation between the physical presence variable and whether or not the firm has a global network of offices was examined. It indicates a positive and significant association (0.64) between the two variables. This suggests that a firm that has an existing infrastructure of offices is also likely to establish an office in the host country.

Based on the economies explanation observed in the first phase, a negative relationship was expected, suggesting that an existing network of offices will reduce the likelihood of an office in the host country. That is, firms would try and reap the economies from the use of its existing offices. It is the mobility of staff that makes this possible. However, the positive relationship makes sense because of the nature of host countries discussed in the second phase sample. A majority of the host countries discussed happened to be the hub of activity themselves from where surrounding countries could derive economies of using staff and office space. It is also important to note that these economies emerging from sharing of staff are related both to perform the marketing function and the project execution function. It was clear from the open ended discussions in the second phase that the real economies from the use of staff are reaped at the project level. During the process of service creation and delivery, people are the main asset applied and the global economies derived from the use of people are critical. People can be easily moved from one location or country to another depending on the project assignments and the expertise required. The mobile nature of people makes these economies possible and also provides a firm more options in terms of the form of physical presence in the host country. Since people can move between offices, there may not be a need to set up a permanent office in a host country. In summary, the global economies in the production of service are derived from the sharing of people across projects and countries and the mobility of people introduces flexibility in the form of physical presence. This is further facilitated by the project orientation of the industry as people get freed up at the end of a project and move on to others.

There is no apparent relationship between the choice of legal form and the global economies or synergies. This is in contrast to the Hill et al framework that suggests that the realization of global synergies may cause the firm to adopt a high control mode.

Economies arising from the team Firms may want to work from one location, usually the home country, to be able to reap the economies using a team for multiple projects. There is a significant relationship between the location of the design work and the type of physical presence in the host country. Almost 64% of the firms doing the conceptual design work in the host country do not have any permanent office in the host country. Further, in all cases where the work is being done in the home country the interviewees rate the need to have a team at the head office as important. This is because the team can be applied to multiple projects. The mean score for the importance of team based economies was 4 on a scale from 1 to 5 in increasing degrees of importance. Thus, the need to have an office in the host country is influenced by where the conceptual design phase of the project is completed. The need to be able to reap the economies in the use of a team is a key factor in the decision. A simple correlation between the physical presence variable and motivation to reap economies from the use of a team reveals a significant and negative association. This suggests that firms which rate highly the economies that could be reaped by using a team at a home based office for multiple projects the lesser inclined these firms will be to set up another office in the host country.

Host country environmental variables

In the first phase of the study, a number of country specific environmental factors emerged as important to the different aspects of entry mode. These include demand conditions, political factors, gap in the level of technical and managerial competence, cultural factors, and government regulations. In the second phase, it was possible to analyze more systematically the managers' assessment of these factors. Since the sample is so thinly spread over a variety of regions it is difficult to apply any statistical test to analyze the relationships between country specific factors and the dimensions of entry mode. Hence, the relationships are more descriptively examined based on frequencies, and cross-tabulations, and an assessment of the ratings provided by the respondents to questions related to country specific issues. Different variables are relevant for the different aspect of entry mode and are discussed here accordingly.

Project versus market focus. Over all, there are 30 cases of a project focus and 9 of a market focus. In terms of the geographical distribution, Latin America is the only region where the number of cases of market focus exceeds the number with a project focus. This makes sense in the light of the recent surge in interest and demand in Central and South America. Firms went there knowing that there were project opportunities. This was clearly evident in many oil and gas and mining companies entering Latin America, ensuring a good potential clientele for the engineering consulting firms. The association between a market focus and market attractiveness was also observed in the first phase of the study. Regions where there are no examples of a market focus include Africa, the Middle East, Russia, Australia, and the Caribbean.

Client-following focus. An examination of the cross tabs between the client-following variable and geographical region suggests that client following strategy seems to be dominating certain areas. For example, a majority (71.4%) of the entries into Russia are client following situations as opposed to other countries where there is either a more even split or a smaller proportion of cases of a client focus. A greater incidence of a client focus in Russia can be explained by two factors. One, potential opportunities in Russia and Kazakhstan attracted the North American oil and natural gas companies who consequently required engineering consulting services. In many cases, engineering consulting firms, which had previously worked for the same clients domestically or internationally, followed these firms into Russia too. Two, unfamiliarity with the Russian regulatory system and the nature of the clients there made the "following the client" strategy a safer one for the consulting firms. In Latin America all the entries were client following situations. Clearly, the demand conditions and the regulatory requirements in the host country are important to a client following strategy.

Physical presence. It was observed in the first phase that specific host country characteristics are key to whether a firm sets up a permanent office in the host country or not. These host country environmental factors include demand conditions, political factors, and the gap in the level of technical and managerial expertise.

Demand conditions Firms that have either a sales office or a design office in the host country perceive high potential demand in the host country as a very important motivator for the decision. High potential demand has a mean score of 4.00 on a scale of 1 to 5 ranging from "not important" to "of utmost importance". After the client's preference for a visible commitment, potential demand is rated the highest.

Country risk Country risk in the form of political instability was rated as only slightly important as a deterrent to setting up an office representing a long term commitment in the country. It has a mean score of only 2.1 on a scale of 1 to 5 ranging from "not important" to "of utmost importance". Cases where political instability appeared to be an important concern pertained to host countries such as Latin America, Russia, and the Middle East. Political volatility in a country was observed in the first phase as an important factor but there was an ambiguity in how it played out for the various entry mode decisions. The firms appeared to be in very diverse countries with diverse levels of political volatility. A potential explanation for political instability as a country risk being downplayed is the project based nature of the industry. People are mobile which introduces a degree of flexibility in that the firm can exit the market without incurring substantial sunk costs, even if it has a permanent office. An office can be closed for all practical purposes by flying people out of the country if the political situation warrants it. Some interviewees gave examples of offices which were "empty shells" because people had to be moved out for personal security reasons when there was political turmoil in the country. Therefore, the political environment is not a major obstacle in the decision to establish the office. If the political situation is perceived to be very risky the firm may not accept project work in that country at all.

Gap in technical and managerial expertise Interviewees were asked to rate the level of technical and managerial competence of the local host country firms relative to the international firm. The mean score for the technical competence of host country firms relative to home country firms is 2.5 on a scale from 1=much lower through 3=comparable to 5=much higher. This suggests that on average the level of technical competence in the host countries, across the sample, is close to comparable to that of the foreign firm. In over 55% of the cases the level of competence of the engineering consulting firms is rated as 3.00, that is, comparable to the entrant firm. The level of technical competence is the lowest, on average, in the Middle East. The average score for managerial skills or the experience in organizing the whole project is 1.9, which is lower than the organizing skills of the foreign firm. Only in 22% of the cases is the level of managerial competence rated as comparable. A majority of the firms with a comparable managerial competence are in the US, Australia, and the Caribbean.

The Pearson correlations between the type of physical presence and the gap in technical and managerial competence respectively were examined. There is a negative and significant correlation of -0.42 between physical presence and the gap in managerial competence between the home and host countries. This suggests that firms are more likely to set up a permanent office in the host country the lower the managerial competence available in the host country relative to the home country.

Continuing legal form and type of legal form. Based on the first phase of the study and past entry mode research demand conditions, cultural differences, and government regulations in the host country are likely to have implications for the choice of legal form.

Demand conditions In the first phase of the study it was observed that uncertainty about the potential demand for the firm's services in the host country may encourage the firm to partner with another firm rather than set up a solely owned venture. In the second phase, however, firms that did partner with another firm did not perceive the uncertainty in demand as an important factor in driving their decision to partner. On a scale of 1 to 5, the mean score for uncertainty in demand was 2.4, which is less than moderately important.

Cultural factors The data suggested that unfamiliarity with culture in the host country, which includes issues such as language, work ethic, and contracting philosophy, play a role in the decision about the form of legal arrangement, particularly the decision to partner with a host country firm or to set up a wholly owned subsidiary. Firms that enter into partnerships with a local host country were asked to rate the role of unfamiliarity with the social culture and the business culture in driving the decision. On a scale of 1 to 5, the mean scores are found to be 2.6 and 2.4 respectively, which is between slightly and moderately important. A cross tabulation of these culture items and the host regions suggests that firms rate the unfamiliarity with the social and the business culture of the host country as moderately to very important for the majority of the cases of entry into Latin America, Asia, the Middle East, and Russia. For Latin America and Asia the issue of unfamiliarity with social and business culture is slightly lower than that for the Middle East and Russia. Firms referring to host regions such as Australia, the US, and the Caribbean rate the impact of cultural differences in driving the decision to partner with a host country firm as unimportant. This is consistent with past research that suggests that firms going to non-Anglo countries, will shy away from high levels of ownership such as wholly owned subsidiaries (e.g., Gatignon & Anderson, 1988). The classification of Anglo versus non Anglo was based on socio cultural clusters of countries arrived at by Ronen & Shenkar (1985) according to which Latin America, Asia, the Middle East, and Russia are in the non-Anglo clusters. The interviewees were also asked to rate the extent to which prior familiarity with the culture of the host country influenced the decision to set up a solely owned venture. However, this appeared to be only slightly important.

Government regulations Government regulations also impact the decision with respect to legal form. Different types of regulations impact the likelihood of different types of legal arrangements. For example, government regulations related to tax liabilities are rated as important to the decision to set up a subsidiary company in the host country. Government regulations requiring a portion of the work to be given to a local firm are expected to affect the decision to partner with a local firm but the data suggests that it is perceived to be a little less than moderately important in driving the decision to partner with a local host country firm. Partnering can take various forms such as temporary associations or permanent joint ventures. There are only three cases of permanent joint ventures in the sample and in two out of three cases government regulatory requirements were perceived of utmost importance in the decision to set up a joint venture. These two cases happen to be in the Middle East and Africa and the one case where government regulations did not play a role was a case of entry into Australia. This makes sense in that the government regulations relating to foreign firms doing business in a country are more prevalent in countries in the Middle East and Africa. Government regulations involving tax liabilities are perceived as moderately important in the decision to set up a solely owned subsidiary. Thus, government regulatory requirements of various kinds appear to be important to the decision to partner with a local host country firm and solely owned companies in the host country. Hence, government regulations, mainly concerned with local involvement and with tax liabilities, are important to the decision about the type of legal arrangement.

Discussion: The role of country specific environmental variables

Current and potential demand in the host country appears to be important to the project versus market, client-following, and the physical presence decisions. The role of demand in the decision to set up a permanent office consistently emerged as important in the first phase of the study. Demand uncertainty is also a component of the Hill et al. (1992) entry mode decision framework, the starting conceptual framework for this study. There is plenty of evidence in past international research that an attractive market or good potential demand encourages resource commitments to the market (e.g., Harrigan, 1983; Root, 1987; Terpstra & Yu, 1988; Erramili, 1992; Kim & Hwang, 1992).

Political factors in the host country are rated as only slightly important in the overall decision to set up an office. The gap in managerial competence or organizing capabilities appears to be associated significantly with the decision to set up a sales or a design office in the host country. In countries where firms lack the managerial experience to organize a whole project, the international firm tends to establish a permanent office. Organizing and coordinating a whole project requires a more continuous physical presence often for long periods of time and thus, setting up a permanent office makes sense.

Government regulations requiring the foreign firm to involve a local becomes the prime reason to partner in countries where strict regulations to this effect exist. The decision to set up a solely owned subsidiary appears to be most strongly driven by government regulations relating to tax liabilities in the host country. Unfamiliarity with the social and the business culture in the host country is moderately important in choosing to partner with a local firm, especially so when the host country is non-Anglo country. There was some indication in the first phase of firms seeking partners in the host country because of socio-cultural distance. There is abundant past research that suggests that cultural, political, regulatory, and demand factors are important to the choice among different types of legal arrangements. Cultural differences often referred to as socio-cultural distance or location unfamiliarity have been shown to impact the type of ownership structure chosen in the host country. Unfamiliarity with the host country culture, economic systems, and business practices will discourage high resource commitments and point towards licensing and joint ventures (Stopford & Wells, 1972; Kobrin, 1983; Anderson & Coughlan, 1987). In the context of services, it is recognized that multinational firms face the need for greater local responsiveness and adaptation of services to the local customers if the host countries have different cultures (Hofstede, 1980; Prahalad & Doz, 1987).

Overall, the factors that seem to matter most for the physical presence decision are demand conditions in the host country and the gap in managerial expertise between the home and host country firms. The choice of legal form is dictated by government regulations and to a moderate extent by social cultural differences between the home and host countries. Political environment although not rated highly is still a consideration.

Overall discussion for each aspect of entry mode

In this section, the discussion centers on each dimension of the entry mode process. This helps identify the combination of factors that are critical for each aspect of entry mode.

Discussion: Focus

Project versus market focus. Factors driving the project versus market focus include the host region, the nature of specialization, and a prior relationship with a client. In some regions (e.g., Africa, the Middle East, Russia) there is a clear bias towards a project focus. The interviewees described these areas as involving high political and economic risk, and regulatory constraints. A project focus, therefore, makes sense. In some specializations too a project focus dominates, e.g., oil and gas, environmental, and buildings. Further a prior relationship with a client increases the likelihood of a project focus. At the same time, if a firm perceives a high threat of client opportunism, it will refrain from taking the project. This is more likely to happen when there is no prior relationship with the client. The first phase reflected that the threat is perceived to be higher in some countries primarily because the inefficient legal system there makes contracts almost unenforceable. There were strong indications of a firm's relationships in the host country pointing to a market focus in the first phase but this relationship is not statistically significant in the second phase of analysis. Given that there is convincing evidence in the first phase of the study of the role of relationships in the host country and the possibility of weak power of tests in the second phase, I would not exclude this factor from the focus decision framework.

Client –following focus. A second focus decision is whether or not to follow a client into the host country. The factors driving the decision include, firm size, prior relationship with a client, overheads related to personnel, need for client consultant interaction, and the importance of individually held knowledge. A larger firm size and a prior relationship with the client both facilitate decision to follow a client into the host country. The overall personnel overheads, the need for client-consultant interaction, and the perception of the importance of individually held knowledge dissuade a client following strategy. In the first phase three things were apparent: one, overheads are a major consideration for the decision for committing resources to the host country; two, the need for client consultant interaction is key for project execution but it entails overheads, and three, experiential knowledge is vested in individuals who are difficult to replicate. Now, following a client is likely to be demanding in the need for *being there* for the client, which increases overheads, and also in requiring allocation of key staff.

A larger size and so a greater base of human and financial resources is likely to give the firm more choices and make it possible to make the necessary commitments involved in following a client. Further, a prior relationship with the client might outweigh the other issues because of the confidence in getting continuous work. The analysis brings out interesting contradictions in a client following strategy. Looking at it from one angle, it is assured work and probably, guaranteed future demand but at the same time it ties up resources.

The above analysis suggests that there is no overlap in the factors driving the project versus market focus decision and the client versus non-client focus.

Discussion: Physical Presence

The factors leading to setting up sales or a design office in the host country are the size of the firm, potential demand in the host country, clients' preference to see a visible commitment by the firm, and the firm's relationships in the host country. When another home based professional firm is used as a conduit for project opportunities in the host country, there is no need to set up an office. Factors that are likely to deter setting up an office are the extent to which individually held knowledge is perceived to be important and its replication difficult. Size of the firm would probably counter the effect of the knowledge factor. Larger firms have a wider base of resources both human and financial. Also, it was interesting to hear interviewees in larger firms down play the difficulty in replicating individually held knowledge as well as team based knowledge. This is because the volume of their work leaves them little choice but to create and disband multiple teams to cope with numerous projects at any one time. As the scale of work increases it becomes more difficult to manage with one core team or with a few key individuals.

The firm's perceived evaluation of the threat of opportunism from clients may actually push a firm to be on the ground. Further, managers, when asked about the importance of clients' preference for the firm to make a visible commitment in the host country actually rated it as the prime motivator for setting up an office. The mean score on a scale of 1 to 5 in increasing degree of importance was 4.1. In fact, the client's preference for a visible commitment of the firm is rated higher than potential demand in affecting the decision to set up a permanent office in the host country. Making such a commitment might facilitate more trust and win a client's loyalty. It is also likely that the relationships with business partners and clients in the host country, often in the form of prior connections of staff members, may offset the threat of client side opportunism. Relationship building with business networks is likely to have the same effect.

The analysis in the second phase also reaffirms the notion of physical presence operating at two levels – at a country level and a project level. At a project level, the need for a physical presence is influenced by some PSF factors and relationship factors. The importance of reputation for managing relationships with clients and business partners, the degree of intangibility of service and the need for customization all point towards the need for face to face client-consultant interaction or some form of physical presence in the host country. On the other hand, high overheads can deter the firm from maintaining a physical presence. These factors are not deterministic in predicting the establishment of a permanent office but emphasize the need for a physical presence for a successful execution of a project. So clearly physical presence has a marketing objective and an objective of service creation or project execution.

Overall discussion – Legal form

The discussion of the overall decision framework for the legal form dimension of the entry mode process will be discussed at two levels. One, the decision whether or not to establish a continuing legal presence. Two, if the firm chooses to do so the next decision is to choose between a solely owned venture and a partnership form.

Continuing legal form or not. The factors that are likely to facilitate the decision to establish a continuing legal form in the host country are the size of the firm, the need to provide knowledge of organizing, government regulations, and the perception of opportunism from clients. On the other hand, the factor that seems to be deterring the decision is the importance of individually held knowledge.

A factor that is not a deterrent but minimizes the need for a continuing legal arrangement in the host country is building relationships with another home based professional firm. When the relationships with a home country firm right from the first entry into the host country are the medium of accessing projects in the country, the firm does not need to invest in a continuing legal arrangement in the host country. It is the other firm that always plays the lead role, a marketing role, and needs to interact more frequently with the final client during the execution of the project.

Two factors that are likely to counter the deterring effect of individually held knowledge on the decision to set up a continuing legal form are the size of the firm and government regulations. The size of the firm means a greater base of human and financial resources and also enough room to have some of the home office personnel dedicated to the host country firm. Government regulations have to take precedence over any other factor unless the firm can find some way of cirumventing them by, for example, operating from a less regulated neighboring country. In the first phase too there was ample evidence of host country government regulations making it necessary to set up a registered company in the country, particularly in the Middle East and parts of Asia. Thus, the size of the firm and the regulatory environment in the host country may push the decision to establish a continuing legal presence in the host country.

Solely owned venture or a partnership. If a firm decides to set up a continuing legal presence in the host country the next decision is to choose the type of legal form. The key forms are a solely owned venture and a partnership, which may be a joint venture or an ongoing loose partnership. Again, size of the firm is important to the decision. A larger firm prefers a solely owned venture. Issues such as unfamiliarity with the hosst country culture and government regulations are the other factors but will vary depending upon the host country. Unfamiliarity with the social and the business culture in the host country is moderately important in choosing to partner with a local firm, especially so when the host country is a non-Anglo country. Government regulations requiring the foreign firm to involve a local firm might force a joint venture arrangement. The examples in the data suggest that sometimes an ongoing association may suffice but often the host government will insist on a registered joint venture. The decision to set up a solely owned subsidiary seems to be motivated by government regulations relating to tax liabilities in the host country. Overall, the analysis suggests that the size of the firm and government regulations are the key determinants of the choice of legal form.

What is most striking about the results is the absence of an overwhelming concern with the risk of misappropriation of knowledge or competitive advantage by business partners as the core of the decision. This has been one of the most consistent observations across both the phases of my study. It can be explained in terms of the nature of knowledge, which mitigates the threat of opportunism to a great extent. Difficulty in the replication of individually held knowledge and past accumulated knowledge in the firm reduces the concern for protection of knowledge.

During the interviews, I observed that the interviewees expressed more concern about the possibility of staff being hired away by other firms, thus taking the knowledge with them. For example, one of the interviewees says, "…it is difficult to copy knowledge in a person's head but it is easy to steal it….". This suggests that if the firms are less concerned about the individuals walking out of the firm to partner firms the greater the likelihood of establishing a partnership form of arrangement.

Discussion: Degree of Presence

The degree of presence dimension of the entry mode process captures a firm's continuity in a country and a stage of the process the firm is at. The analysis above identifies factors that would help predict a firm's degree of presence in a country. These factors may help ensure a continuous flow of project opportunities, and thus, facilitate a continuous flow in the host country.

First, a firm's overall international revenue is a positive indicator of the likelihood of enhancing a firm's presence in the host country. Second, the greater the firm's overall degree of internationalization of the firm the greater the degree of presence in the host country. Third, building relationships with business networks in the host country can lead to more market information about project opportunities and increase a firm's degree of presence in the country. Another interesting relationship revealed in the study is that the higher the degree of customization of designs the greater the degree of presence in the host country. This suggests that if a firm can continue to build in some uniqueness in the designs and, consequently, ensure demand for its expertise, it is likely to maintain its continuity in the host country. Also, the more the firms perceive the nature of human assets as being not easily replicable and their business as knowledge intensive, the greater the degree of presence. Thus, if a firm can maintain the quality of its staff and be able to keep them, this will be an advantage that will help enhance its reputation and access to more projects.

Table 5-22: Summary of Results

DEPENDENT	INDEPENDENT
FOCUS • Project vs market	• Specialization • Demand • Relationship with client (+) • Threat of opportunism from clients (-)
FOCUS • Client vs nonclient	• Size (+) • Relationship with client (+) • Dominance of human capital – overheads (-) • Need for client-consultant interaction (-) • Individually embedded knowledge (-)
PHYSICAL PRESENCE	• Specialization • Size (+) • Host country - Demand (+) • Gap in managerial expertise (+) • Global economies of offices (+) • Relationships in host country (+) • Relationship building with home country firms (-) • Relationship building with business networks in the host country (-) • Reputation – relational level (+) • Degree of customization (+) • Dominance of human capital – overheads (-) • To reduce uncertainty from intangibility (+) • Individually held knowledge (-) • Difficulty in replicating individually held knowledge (-) • Client opportunism (+)
CONTINUING LEGAL ENTITY • yes vs no	• specialization • size (+) • Government regulations • Relationship with home country firms (-) • Relationship building with a home country firm or client (-) • Individually held knowledge (-) • Knowledge of organizing (+) • Client side opportunism (+) • Embeddedness of team held and organizationally held knowledge as a mitigator of opportunism (-)
CONTINUING LEGAL ENTITY sole vs partnership	• Size (+) • Degree of internationalization (+) • Government regulations • Further analysis of protection of knowledge issues in the choice of mode reveal intangibility of service, client-consultant interaction, difficult to replicate nature of human assets, relationship building with clients and business networks, past accumulated knowledge in firm. These issues make choice of legal form more flexible.
DEGREE OF PRESENCE	• International revenue (+) • Degree of internationalization (+) • Relationship building with business networks in host country (+) • Relationship with a home country firm (-) • Reputation – relational (-) • Degree of customization (+) • Nature of human assets (+) • Difficulty in copying individually held knowledge (-)

CHAPTER 6

SUMMARY AND CONCLUSIONS

This chapter summarizes the key findings and contributions of this research. Changes made to the entry mode decision framework in the course of this study are attributed to two key factors. One, the project based nature of engineering consulting. Two, the professional service characteristics of engineering consulting. There are five salient ways in which this study enhances our conceptual understanding of international entry mode decisions of engineering consulting firms and simultaneously, adds to knowledge in this area for all professional service firms. First, the study arrives at a new conceptualization of the entry mode decision construct as a multidimensional entry mode process decision. This is primarily attributed to the project based nature of engineering consulting. Second, the study clarifies the role of knowledge, which is intrinsic to a professional service firm, in different aspects of entry mode. Third, it makes clear what the generic professional service characteristics mean in the context of engineering consulting and their relevance to the entry mode process. Fourth, it sheds light on the importance of relationships and relationship building. This is ascribed to the project based nature of the industry and its personalized nature as a professional service. Fifth, entry into a host country is occurring at two levels, country level and project level. Preliminary project level analysis confirmed that some of the determining factors are more relevant at the project level.

The findings outlined above merit further discussion to drive home the contribution they make to our theoretical understanding of entry mode decisions of engineering consulting firms and professional service firms at large. The discussion is organized in three sections. The first section deals with the reconceptualized entry mode decision construct. The second highlights factors that have emerged as key to all five aspects of entry mode. It also draws attention to the complexity of the entry mode process as an intermeshing of activities and decisions made at the level of a project and at the level of the country. It illustrates how some factors, especially certain PSF factors, are relevant at the project level. In the third section, theoretical implications of this research are discussed.

Reconceptualization of the Entry Mode Decision Construct

The entry mode decision construct is reconceptualized as a multidimensional entry mode process decision. This was driven by the project based nature of engineering consulting and consequently, its project by project entry into an overseas market. Engineering consulting firms continuously enter a host country project by project and involve decisions with respect to four aspects, focus, physical presence, legal form, and the degree of presence. Mode of entry, therefore, is a process and is multidimensional. This is in contrast to a unitary and static conceptualization of the construct in the Hill et al. (1990) framework from where this study began and in all previous work. In past literature, which is grounded primarily in manufacturing, the choice of legal arrangement is the core of the entry mode decision. Most past entry mode studies assume the establishment of some legal form when entering a host country and the entry mode decision boils down to the choice of an appropriate governance form. But in engineering consulting establishing a legal form in the country is not a prerequisite for entry. The data speak to this. In 17 out of 39 cases in the sample, which constitutes 40% of the cases, no continuing legal form is set up in the host country but these firms are still deemed to have entered the country. The choice of legal form is certainly an important component of the entry mode decision but only one aspect. As a result of a project by project entry and the nature of the process of service delivery, entry mode assumes the nature of a process and takes on new dimensions in addition to legal form. Five dimensions describe the entry mode process. First, whether to follow a project into the host country or to follow a market? Second, whether to follow a client or not? Third, whether to have a physical presence in the host country in the form of temporary visits and project based offices or in addition, to set up a sales or a design office? Fourth, whether or not to set up a continuing legal form? If yes, to choose between a solely owned venture and a partnership form. Fifth, whether a firm can maintain continuity in the country and enhance its degree of presence?

At the end of the second phase of the study, I have arrived at five sub-models within the larger entry mode process decision framework. These sub-models correspond to each of the five dimensions, that is, project versus market focus, client following focus, physical presence, continuing legal form, and the degree of presence in the host country. A critical objective of the second phase of the study was to confirm if it continued to support the five dimensional entry mode construct that was developed in Phase I.

It is important to show that the five dimensions are, indeed, conceptually separate constructs. The five decision models comprising the entire entry mode decision framework are depicted in Table 5-22 on pg. 264. One way of checking the validity of the five dimensions as separate constructs is to examine the degree of overlap in the combination of factors predicting each decision. In other words to examine the predictive validity of each decision model. The combination of factors affecting each aspect of the entry mode process is distinct. There is a significant overlap, however, between the physical presence decision model and the continuing legal form model. The common factors include the size of the firm; relationship building with home country firms; importance of individually held knowledge; and the perceived threat of client side opportunism. But the overlap in the determinant factors is not sufficient ground to conclude that these are indeed the same theoretical construct. There are at least two arguments to show that the physical presence decision and the continuing legal form decision are different decision constructs. First, the data itself suggests that there is no perfect overlap in the cases of physical presence and continuing legal form. Second, there is ample evidence in the data from both phases of the study that the motivations for the choice of physical presence and continuing legal form decisions are different.

The sample in the second phase comprises twenty one cases of firms with a sales or a design office and twenty two cases of continuing legal arrangements in the host country. Overall, there are ten cases where there is no overlap between a physical presence in the forms of a sales or design office and having some legal status. There are seven cases where there is no sales or design office but there is a legal arrangement in the form of a partnership, such as a continuing association with a firm in the host country. There are three cases of sales offices that have no legal status.

Physical presence and legal form can be seen as conceptually separate based on the motivations that drive the two decisions. Physical presence at the level of a country is motivated by a marketing objective. Being on the ground leads to easier access to more project opportunities. More importantly, a physical presence in the form of an office fulfills clients' needs for a visible commitment. A continuing legal form in the host country is motivated by host country government regulations. Solely owned ventures are often motivated by regulations with respect to tax liabilities. Partnerships, especially with a local partner, are motivated by host government requirements for local content.

At the level of the project, the process of executing a project requires physical presence. It is important for coordinating with other firms on the team who are involved in the project. Clients also prefer an ongoing interaction during project execution, which can be achieved through a physical presence in close proximity to the client. Legal arrangement adopted for each unique project serves the purpose of defining the scope of work for the various parties involved in the project and providing a framework for getting paid.

The importance of physical presence as a separate construct is reflected in its marketing role and in the actual execution of the project requiring communication with the client and other members of the team. An understanding of the process of service creation and delivery shows that legal channels do not affect how the work is done or the actual methodology for executing a project.

Overall, there is a knowledge issue and a project based issue that help understand the difference between physical presence and legal form. In manufacturing, there is an overlap between the physical presence and legal form because of the nature of the assets. But in engineering consulting it is the knowledge held by individuals that is the dominant asset and this asset is mobile allowing more flexibility in the choice of physical presence. This also implies that there may not be a need to set up a legal arrangement at all. Further, there is the project level issue where the physical presence is needed more for the execution of the project and a legal arrangement is formed project by project to decide the scope of work or fix a point of responsibility.

Key factors affecting the overall entry mode process

The factors that stand out as salient for most of the entry mode aspects are discussed here. These include the role of knowledge, PSF characteristics, relationships, transaction costs issues and the size of the firm.

Knowledge

Knowledge is central to professional service firms. Both phases of the study reveal three types of knowledge that have implications for various aspects of the entry mode process. They are classified by where they are held, that is, individually held, team held and organizationally held.

Individually held knowledge in the context of engineering consulting takes the form of experiential knowledge at a technical level and at the level of relationship building skills. Experiential technical knowledge arises from experience in the application and adaptation of technical knowledge to diverse problems and client needs. Technical engineering knowledge itself is quite universal, widely known, and easily teachable. But it is the experience in its application, adaptation, and customization to different engineering consulting projects that is difficult to replicate. This study suggests that the importance of individually held knowledge and the difficulty in its replication are likely to dissuade a firm from following a client to the host country, setting up a physical presence in the form of a permanent office, and establishing a continuing legal arrangement.

It is important to note that the knowledge is held in people who are a core asset of these firms. When a firm follows a prior client into the host country, the client often demands specific people to be allocated to the projects. Usually these are individuals whose interaction and expertise the client has experienced in prior projects in the home country. For the firm this means making a long-term commitment of specific people to one client which may not be in the interest of the business as a whole.

Clients may also want the key staff members to be physically present in the host country. Clearly, in client following situations clients can be more demanding or have more rigid expectations. When individually held knowledge is perceived to be crucial and cannot be easily replicated then committing key personnel to a specific client takes away the flexibility in the use of that staff. Therefore, experiential knowledge embedded in people can be an impediment to a client following focus.

Experiential individually held knowledge also constrains a firm in setting up a permanent office and a continuing legal form in the host country. Again, the explanation is that replicating individually held knowledge in another office is difficult. This is likely to be more of a constraint for setting up a design office, which requires creating a full-fledged outfit or a complete design team. Both phases of the study emphasize that maintaining consistency in quality across all offices is critical for these firms' international reputation. Therefore, difficulty in replicating the knowledge base held in individuals would prevent a firm from setting up a full-fledged office.

The study also suggests that difficulty in replicating individually held knowledge predicts a lower degree of presence in a country. Difficulty in replicating this knowledge puts a limit on the scale of project work a firm can take on. This may eventually hamper the process of achieving a higher degree of permanency.

Team held knowledge. Project based activities in engineering consulting are organized in teams. Individuals in a firm pool their knowledge and expertise in teams, which are a blend of a broad base of individually held skills and specialties. The real value-added from this blend of people emerges from their experience of working together. Team held knowledge too is difficult to replicate and in fact, it can be more challenging to replicate a whole team than individuals. In the first phase of the study team based knowledge was emphasized and appeared to be relevant to the entry mode process. Surprisingly, in the second phase, the importance of team held knowledge did not emerge as a predictor of any of the five aspects of entry mode. The study, however, shows that firms that perceive team held and organizationally held knowledge to be highly embedded in nature and difficult to separate or replicate are less likely to set up a continuing legal form. This is because the knowledge embedded at the level of a team and the organization as a whole is hard to recreate. In all cases where the design work was being done in the home country two reasons were rated highly as motivators of the decision. First, the fact that the core expertise was located in the home country office and second, that the team at the head office could be applied to multiple projects. The factors that discriminate between firms that have an office in the host country versus those that do not are the location of core expertise and economies from applying the team to multiple projects. This suggests that the notion of a team is important and that it is difficult to recreate it in different locations, which has implications for the decision to set up an office.

What emerged quite clearly in the second phase was the conflict these firms experience between the need to build team based knowledge by preserving a core team or teams and at the same time wanting to expand the project load, which may not allow them to keep a team intact. This sense of frustration is particularly apparent in larger firms. They would clearly like to strive for the synergies that arise from a team working together, but as the number of projects increases, they cannot always do so. At the same time, the larger firms also emphasize that there is always a core of individuals that stays intact in the firm. This is like a relationship-building group that is instrumental in marketing the firm's expertise and attracting more project opportunities. Smaller firms, on the other hand, appear to attach more value to core teams and team held knowledge. This constrains them in increasing the scale of work and consequently, their degree of presence in a country.

Clearly, team held knowledge is critical to the nature of engineering consulting services but the scale of projects often makes it difficult to nurture the synergies in a core team or a few teams that always work together. The interesting dilemma that growing firms face with respect to teams might be a good reason for the importance of team held knowledge not manifesting itself directly as a factor in the entry mode decisions. However, the choice of location of design work and the team-related factors that motivate it capture the importance indirectly. It is evident that replication of team held knowledge is difficult which affects the decision to set up an office in the host country.

Organizationally held knowledge. Knowledge builds and accumulates over time not only at the level of an individual and in teams but also in the firm as an entity. Accumulated knowledge at the organizational level accrues from the firm's breadth of experience and exposure technically and relationally. Knowledge held in individuals and in teams develops over time into routines and principles held at the level of the organization. This builds a firm's ability to organize and manage projects. In fact, more than the technical expertise, it is the experiential knowledge of organizing a whole project that differentiates an engineering consulting firm from its competitors.

The study suggests that the knowledge of organizing and managing a whole project is important for the decision to set up a continuing legal form in the host country and the firms are likely to prefer solely owned ventures. This is supported by a recent study that suggests that firms would like to maintain their level of quality of service and thus, prefer more control. This is particularly true of a client following situation where a firm would want to be able to retain its clients (Contractor and Kundu, 1998). In a partnering situation, differences over what constitutes quality and how the work should be done may create tensions in the relationship (e.g., Greenwood et al., 1990). Since knowledge of organizing and coordinating a whole project is a key differentiator of a firm's capabilities, quality concerns are paramount.

This study also shows that firms which perceive past accumulated knowledge of a firm as difficult to replicate seem less concerned about protection of knowledge when making a decision about governance form. Past accumulated knowledge held at the level of the organization includes accumulated experiential technical knowledge and the experience in relationship building with clients and other firms. Such an experiential knowledge base of a firm accumulates over a long period of time. This makes replication by business partners difficult and allows the firm to preserve its source of advantage.

In summary, the nature of knowledge and where it is held appear to be absolutely critical to different aspects of the entry mode process. Difficulty in replicating experience in the application and adaptation of technical knowledge to clients' needs vested in a few staff members constrains a firm in following a client, establishing an office, and having a continuing legal form in the host country. Further, it is likely to impede the process of gravitating towards more permanency in the host country. Team held knowledge is important but does not emerge as a deterministic predictor of the different entry mode decisions due to the dilemma discussed earlier. The need to provide the knowledge of organizing and managing projects is important to the decision to set up a continuing legal form, preferably solely owned ventures as a choice of organizational form.

Professional Service Characteristics

Two important objectives are achieved in this study related to PSF characteristics. First, the study elucidates what the generic characteristics really mean in the context of engineering consulting and second, it helps understand their role in different aspects of the entry mode process. The critical factor is the nature of the dominant asset in engineering consulting as in other professional services – people.

People. Three dimensions of people as assets have implications for entry mode. One, firms incur high overheads on account of personnel. Two, people cannot be replicated like machines. Finally, people are mobile unlike fixed assets.

The study suggests that the dominance of human capital in terms of overheads discourages firms from following prior clients into the host country. An explanation for this is that known clients can be more specific in their demands and in particular require the firm to be physically present in the host country. It has been pointed out in an earlier study on internationalization of services that investing in an office becomes a necessity to be able to retain prior clients (Dunning, 1989). As noted earlier, firm size helps counter the constraint imposed by overheads. A larger firm has the financial and human resources to absorb the overheads entailed in following a client.

A salient characteristic of assets comprising people is that intellectual capital cannot be replicated like fixed capital. This emerged as important in enhancing a firm's degree of presence in the host country. At the most basic level, people's intellect is a firm's most valuable asset and the firm is as good as the people employed. Further experiential knowledge and capabilities build on that foundation. It is people who hold the difficult to copy experiential knowledge. A challenge for the firm is to be able to *keep* the staff who hold this knowledge.

The nature of human assets plays an important role in shaping the effect of other determinants of entry mode such as global economies of scale and host country specific environmental factors. This relates to the mobility of people. To recapitulate, global economies in engineering consulting arise from sharing of staff and office space. Economies from sharing of staff are facilitated by two factors. First, people are mobile so they can move between offices. Second, the project based nature of business allows for reallocation of staff as projects finish and new ones begin in different countries. This can reduce the need to set up full-fledged offices in every country of operation.

As far as host country environmental factors are concerned, factors such as economic volatility, political instability, and cultural factors appear to be relevant to the physical presence decision. However, the relationship is not quite clear. These firms have offices in a variety of countries with varied cultures and political situations. The lack of clarity about these relationships can be attributed to the mobile nature of people and the project orientation of engineering consulting. Mobility of staff gives the firm more options to deal with political instability in a country. It is not difficult to close an office or at least get the expatriates out of the country if trouble is brewing. There were scenarios where firms had offices in certain countries but they were temporarily empty, as people had been pulled out in the face of political upheaval. Further, project based activity provides the firm the opportunity to gain familiarity with the political scene before setting up an office. So political instability will not necessarily exclude the decision to set up an office but it is more about timing and the scale of office.

As for cultural differences in a project based business, a firm can proceed cautiously from project to project and eventually learn about the culture. There is evidence in past research that the impact of culture is expected to change over time (Li

& Guisenger, 1992). In the context of a project based business, this would mean that the effect of cultural differences diffuses as the firm proceeds from project to project in the host country.

Clearly, the mobile nature of people and the project based nature of engineering consulting make the role of global economies and environmental variables in the entry mode decisions less deterministic.

Reputation. The study identifies two types of reputation capital in the context of engineering consulting, reputation for experiential technical expertise and reputation for relationship building. This study suggests that firms which perceive reputation for relationship building as more important are at a lower degree of presence. As noted above reputation accumulates project by project, which implies that these firms have not yet accumulated enough reputation for their experiential technical knowledge through project experience.

Degree of Customization. The study reveals that the degree of customization is important to the firm's ability to enhance its degree of presence in the host country. A potential explanation is that a firm can ensure ongoing demand for its expertise if the projects it takes on require some degree of customization and involve an element of innovation. If the degree of standardization is greater there is a higher probability of local firms becoming equally competitive, weeding out the more expensive international firms from the host country. By accessing a variety of projects that allow the firm to use its experiential knowledge to build in some uniqueness in the designs the firm can enhance its presence in the market.

Consultant- client interaction. The need for client consultant interaction is considered important in most service activities. The interaction is a part of the final outcome. The study suggests that the need for client-consultant interaction is likely to deter a firm from following a client into the host country. This, in combination with the negative impact of high overheads makes sense as more interaction entails higher overheads.

Based on observations in both phases of the study, need for face to face client consultant interaction represents the need for a physical presence during different stages of managing and executing a project. The study clarifies that the physical presence decision operates at two levels in engineering consulting. At the level of the country, which involves setting up an office not directly tied to a specific project, the motivation is "marketing" or setting up a base to be close to the opportunities for more projects. At the project level, there is a need for consultant-client interaction for the actual execution of the project, suggesting that there is a need for *some form* of physical presence. It made sense, therefore, to explore if this need for face to face client-consultant interaction or the need for some physical presence at the project level is triggered by other PSF factors. Four factors emerged as significant for the need for a physical presence at the project level. First, the need to build a reputation for managing a good working relationship with the client requiring some form of physical presence. Second, the degree of customization calls for face to face interaction. Third, the need to enhance credibility and reduce uncertainty arising from the intangible nature of service by demonstrating past experience to the client emphasizes the need for some form of physical presence. Fourth, high overheads can be a deterrent to the need to maintain a physical presence. This was indeed very informative in that it revealed that some of the PSF characteristics manifest themselves quite strongly at the project level. What is most significant is that while these factors do predict the need for interaction and hence, some form of physical presence, they are not deterministic in predicting *what* form. This is again attributed to the mobile nature of human assets that introduces flexibility in the choice of form of physical presence in the host country. Project level needs are often served through temporary visits by staff and project offices.

Therefore, PSF characteristics that emphasize the need for client-consultant interaction, that is, the importance of reputation building, the degree of customization, and the role of intangibility are important to the entry mode process but are operating at a project level. This is significant because reputation building, confidence building, relationship building, customizing solutions, and alleviating uncertainty arising from intangibility are occurring during the actual process of service creation and delivery. They accumulate project by project and coupled with the marketing objective of physical presence at the country level facilitate the entry mode process towards a higher degree of presence. The dual roles of physical presence as a facilitator of the process of service creation and as a marketing medium are mutually supportive and work towards enhancing a firm's long-term presence in the host country.

In sum, there are three salient points about the role of PSF characteristics in different aspects of the entry mode process. First, people as core assets offer an interesting combination of constraints and advantages. They are expensive and are difficult to replicate but at the same time, highly versatile in being mobile.

Accordingly, high overheads constrain a firm in adopting a client following strategy and in maintaining a physical presence in the host country. Difficulty in replicating people can help in protecting the firms' source of advantage and enhance its degree of presence in the host country. Mobility shapes the effect of global economies and environmental factors on the physical presence dimension of entry mode and actually makes the impact of these factors less deterministic. It also allows more flexibility in the decision about form of physical presence at the project level. Second, the degree of customization is important for a firm to ensure continuity in a market. Third, reputation, intangibility and the need to customize during the process of project execution require physical presence but are not deterministic about the form of physical presence. The following section illustrates how PSF characteristics also help counter the threat of opportunism from business partners.

Transaction cost factors– opportunism

The role of knowledge is central in the entry mode literature. Protection of knowledge from misappropriation by business partners and licensees is described as a primary driver of entry mode choice or rather the choice of an appropriate legal form. Firms avoid this risk of opportunism by choosing high control modes such as wholly owned subsidiaries over licensing and other partnership arrangements. This research shows that engineering consulting firms form a variety of complex, multi party contractual relationships such as subcontractual arrangements or associations, and project based joint ventures. The high incidence of non-hierarchical quasi-market forms of contracts is surprising because the entry mode literature would predict these organizational modes as making a firm's knowledge highly susceptible to opportunism. But this study clearly suggests that the threat of opportunism in the form of business partners walking away with the firm's knowledge is not an important concern in engineering consulting. The threat of opportunism does not differentiate between the choice of a solely owned venture and a partnership form of legal arrangement. This is one of the most interesting and significant findings of the study given that knowledge forms the very basis of professional service firms.

The role of opportunism was examined further to understand more clearly what mitigates the threat. It appears that knowledge factors, PSF characteristics, and relationship factors all have a part in mitigating the effect of opportunism. Difficulty in replicating individually held knowledge serves as a deterrent to the threat of opportunism. Also, past accumulated knowledge embedded in the firm in the form of the experiential base of technical expertise and relationships reduce any worries about protection of knowledge. This knowledge is highly embedded and difficult for business partners to walk away with or recreate, thus reducing the threat of opportunism.

Among PSF characteristics, three factors minimize the concern for protection of knowledge. First, the extent of intangibility of service which suggests that there is always some ambiguity involved for clients and each situation has to be dealt with on its own merit. Thus, there is no standardized recipe that a business partner can take away. Second, the high need for face to face interaction during different phases of a project makes the service personalized and again has to be adapted to different client situations. Third, human assets that are core in PSFs have an idiosyncratic quality that makes replication difficult. As far as relationship factors are concerned, firms that build relationships with clients, other home country firms, and with business networks in the host country appear to be less concerned about protection of knowledge from business partners. The threat of opportunism is a relevant issue but not a concern that would discourage partnerships.

A significant outcome of the process of exploring the risk of business partners trying to copy or replicate a firm's sources of advantage was that it revealed a real concern in the industry for people being hired away. This problem has been alluded to in some recent studies which suggest that PSFs tend to attract personnel who are likely to use the firm to advance their own learning and move on. This may cause the PSF to lose its distinctive expertise in human assets (Jones et al., 1998).

It is important to note that the problem of turnover or people being hired away does not deter firms from entering into partnerships. Whether the firms partner or not, the risk of people walking out of the door still exists. In fact, partnering is almost seen as the need in the industry because projects are often large requiring a variety of expertise all of which is difficult to find in one firm. Collaboration is more a need than a choice in this industry. A recent study on collaborative work in PSFs also supports the argument that collaborative hybrid arrangements can actually be instrumental in enhancing work opportunities as reciprocity generates more collective work (Jones et al., 1998). This may actually provide an incentive to continue to work together and not jeopardize the relationship by resorting to opportunism of any kind. This is especially relevant for a project based business such as engineering consulting where a firm's survival is incumbent on a continuous flow of projects.

The study suggests three issues with regard to opportunism from business partners. First, opportunism by business partners is not a predictor of any of the choice of legal form. This deserves special attention because in past literature the threat of opportunism from business partners has a highly deterministic role in the choice of entry mode. Second, knowledge factors, PSF factors, relationship factors mitigate the risk of opportunism, and the project based nature of industry is a further deterrent. Third, one can infer that there is more flexibility in the choice of legal form and this at least partially explains the prevalence of non-hierarchical, loose partnership forms of organizing arrangements in the industry.

A bigger issue in these firms is the threat of opportunistic behavior of clients. In fact, this has a role in most aspects of entry mode. The threat of client opportunism is likely to discourage a project focus. It is likely to impede the process of a firm increasing its degree of presence in the host country. Both make sense because if a firm perceives a threat of opportunism from clients it will hesitate to commit to a project or projects. A higher threat of client side opportunism also predicts a higher probability of the firm setting up a sales or a design office and a continuing legal form. An office is perceived as a sign of commitment by the firm. A legal status reflects stability to current and potential clients. One could surmise that a firm's commitment in the form of setting up an office and having a legal status in the host country might be reciprocated by loyalty and commitment by the client as well. However, further research is required to get a better understanding of clients' perceptions.

Relationships

The engineering consulting industry thrives on building and maintaining relationships. Relationships with clients and business partners are critical for two reasons. First, the project based nature of engineering consulting makes relationships valuable in providing access to more projects in the host country. Second, as a professional service, engineering consulting is a personalized service requiring ongoing interactions with the client during the process of creation and delivery of that service. The process of relationship building occurs at the project level and grows from project to project.

This study points to four key relationships that affect different aspects of the entry mode decision. These are relationships with the client, relationships of staff members or of the firm in the host country, relationships with a home country firm, and relationships with business networks in the host country. A pre-existing relationship with a client is a predictor of a client following focus and a project focus. Relationship of staff members or of the firm in the host country encourages the firm to set up an office in the host country and also provides momentum to its degree of presence. The study also suggests that firms that nurture their relationships with home country based firms tend not to set up an office or a continuing legal form in the host country. Often in these situations the home country firm actively pursues project opportunities and assumes the role of an "immediate client". Firms that cultivate relationships with a home country firm have a lower degree of presence in the host country. Further, firms which tend to piggy back on other home country firms are relatively more risk averse but increasingly willing to expand internationally.

Relationship building with business networks in the host country appears to be important for the physical presence, type of legal form, and the degree of presence decisions. Most firms that rated highly building relationships with business networks in the host country appeared to be in some form of partnering arrangement with an associate in the host country. These firms being less inclined to set up an office there makes sense as their partners build the contacts. Relationship building with business networks enhances a firm's degree of presence in the country.

Firm size

The study indicates that firm size is an important predictor of the decision to set up physical presence in the form of a sales or a design office. Also, larger firms tend to set up a continuing legal entity in the form of a solely owned venture. Since people are the main corporate asset in engineering consulting firms, the size of a firm is a good predictor of the decision to set up an office. Firm size plays a particularly critical role as it counters the constraints arising from difficulty in replicating individually held knowledge and the limitations imposed by high overheads. A larger firm has a wider base of both human and financial resources and the capacity to absorb overheads. It can more easily allocate personnel to host country offices.

Summary of highlights of study

Here is a summary that delineates more clearly the value added by this study. The study contributes to our understanding of entry mode decisions of engineering consulting firms in two significant ways. *First*, it arrives at a new theoretical conceptualization of the entry mode construct as a multidimensional process. This is attributed to the project based nature of engineering consulting and to the nature of the process of service delivery. Contrary to what the traditional entry mode literature suggests, the entry mode decision is more than just a choice of governance form. Further, it is a process because it is a project by project entry that might eventually culminate in a more permanent presence in a country. *Second*, it identifies professional service firm (PSF) characteristics, knowledge held in individuals, teams and the organization, relationship building with clients and business partners, and firm size as key predictors of different aspects of the entry mode process. It is important to note that the contribution here is not in merely adding these factors to the Hill et al. framework but in unraveling the basic foundation of these firms suggesting that these firms are indeed different and, therefore, need to be viewed through a different conceptual lens. This becomes apparent from the understanding this study provides of the professional service firm character of these firms and the project based nature of activity and their implications for the entry mode decisions. In addition to their direct implications, they also redefine how other factors such as global economies and host country environmental factors play out in the context of entry mode.

The study elucidates what PSF characteristics such as people as the dominant asset, reputation, intangibility, and the degree of customization mean in the context of engineering consulting. This further helps understand how different PSF characteristics affect different aspects of entry mode. Overall, they are important for the decision to follow a client into a host country and in enhancing a firm's degree of presence in the host country. They also strongly emphasize the need for a physical presence at the project level. PSF characteristics are clearly important at both the level of the country and at the level of a project.

Particularly significant of the PSF factors are people as the core asset and the knowledge they hold. People as the dominant asset play a significant role in shaping the effect of other factors, more specifically, global economies, country specific environmental factors such as political instability, and the role of individually held knowledge in the entry mode process. Engineering consulting firms realize the global economies and synergies from the sharing of people across offices and projects. The mobility of people makes the factors, global economies and political instability, less deterministic of the entry mode decisions. Further, people hold the primary knowledge base of a firm and this shapes the effect of individually held knowledge on different aspects of entry mode. Experiential knowledge, both technical and relational, is held in people and people holding the knowledge cannot be replicated like machines. This constrains the decisions with respect to setting up a permanent physical presence, a continuing legal form, and following a client into the host country. At the same time, the difficult to replicate human beings holding the knowledge serve as a source of advantage for the firm in facilitating an increased degree of presence in the host country. If a firm can hold on to that intellectual capital, that is, the people who hold the knowledge, it would predict a firm's degree of presence in the country, an important aspect of the entry mode process. PSF factors also play an important role in reducing the threat of opportunism. PSF characteristics such as the intangible nature of service, the need for face to face interaction, the idiosyncratic quality of human assets help mitigate the threat of opportunism from business partners.

Overall, PSF characteristics are significant for different aspects of mode of entry in four ways:

- Predict the decision to follow a client into a host country and the degree of presence in the host country.
- Predict the need for a physical presence in the host country during the process of executing and managing a project.
- Shape the effect of global economies, environmental factors, and individually held knowledge on entry mode making these factors less deterministic of the decisions.
- Serve as mitigators of the threat of misappropriation of knowledge or opportunism by business partners thus introducing flexibility in the choice of legal form.

The study provides an understanding of PSF characteristics much beyond what the past service literature does. The professional service characteristics are important and in fact draw our attention to what these firms do and what they sell and the foundations on which they are built. The role of PSFs is not just limited to being added as another factor to the Hill et al framework. But it highlights what is intrinsic to these firms and helps understand how other factors operate in the context of the basic professional service character of these firms.

The study clarifies the role of knowledge in different aspects of entry mode by expounding the notion of knowledge in terms of what it is about and where it is held. In the Hill et al. framework, implications of knowledge for the entry mode decision is conceptualized in terms of its proprietary nature and tacitness without delving into what the knowledge is about. This study identifies the different types of knowledge that are crucial to the process of service creation and delivery. These knowledge are held in individuals, teams, and in the organization. Knowledge, mainly of an experiential nature, both technical and relational, is the source of advantage in these firms. Individually held experiential knowledge in the application and adaptation of technical knowledge and of relationship building appears to be most critical for different dimensions of the entry mode process. Capturing the experiential and embedded nature of knowledge makes clear the implications for entry mode decisions. This understanding of the attributes of knowledge in context of what the knowledge is about and where it is held also explains why the threat of opportunism or misappropriation of knowledge by business partners is not a major concern for engineering consulting firms. The study finds that most of the mitigators of opportunism are related to the nature of knowledge. Difficulty in replication of individually held knowledge and difficulty in recreating the experiential base or past accumulated experiential knowledge, technical and relational, at the level of the firm mitigate the threat of opportunism from business partners. When the threat of misappropriation of knowledge is a major concern and important to the entry mode decision, as the literature suggests, it becomes all the more important to try and comprehend what the knowledge is about in order to assess its susceptibility to opportunism.

Overall, this study adds to our understanding knowledge and its role in different aspects of entry mode in the following ways:

- identifies knowledge embedded at three levels – individual, team, and organization – that are crucial for service creation and delivery
- Individually held knowledge and the difficulty in its replication predict the decisions about following a client into host country, physical presence, continuing legal form and the degree of presence
- Providing knowledge of organizing predicts the decision to set up continuing legal form and leans more towards a solely owned venture
- Difficulty in replicating individually held knowledge and difficulty in recreating the past accumulated experiential knowledge in the firm mitigate

opportunism. This is turn makes the threat of opportunism insignificant for the choice of legal form decision.

It is imperative for the mode of entry research, not just in the context of professional services, to expand the notion of knowledge and for PSFs it is definitely important given that knowledge is inherent to these firms.

One of the most noticeable outcomes of this study is that protection of knowledge does not appear to be a major concern in this industry. As discussed earlier, knowledge related factors, PSF factors and relationship building factors reduce the threat of misappropriation of knowledge by business partners. Thus, contrary to prior entry mode research concern for protection of knowledge is not a key driver of the entry mode decision, more specifically the choice of type of legal form decision. In fact, the study provides a new insight into how client –side opportunism might be a bigger concern for engineering consulting firms. Overall, the study highlights the following about the role of opportunism, a transaction cost factor, in the study

- Threat of misappropriation of knowledge or opportunism from business partners is not a significant determinant of the choice of legal form aspect of entry mode.
- Threat of opportunism appears to be mitigated by
    - Knowledge factors – difficulty in replicating individually held knowledge; difficulty in recreating experiential knowledge accumulated over time in the firm
    - PSF factors – degree of intangibility; need for client-consultant face to face interaction; human assets being difficult to replicate
    - Relationship factors – Relationship building with clients, home country firms, and business networks
- Threat of opportunism from clients important in the context of entry mode

This study sheds light on the crucial role of relationships that are not a part of the Hill et al. framework and have not been explicitly explored in the past entry mode literature. This can be partly attributed to the relatively depersonalized nature of manufacturing. Relationships and relationship building with clients, business networks, and business partners in the home and host countries play a critical role in different aspects of the entry mode process of engineering consulting firms. Relationship building assumes greater importance in the light of the personalized nature of the service and the project orientation of the industry. The following relationships emerge as important for different aspects of entry mode:

- Prior relationships with clients predict decisions about following a project or market and following a client into the host country
- Prior and subsequent relationship building with home country firms predicts decisions about physical presence, continuing legal form, and the degree of presence
- Relationship building with business networks in host country predict decisions about physical presence, the type of legal form and the degree of presence in the host country

Finally, the size of the firm is a critical factor in the various aspects of the entry mode process. Size appears to play the role of countering the constraints imposed by the difficulty in replicating intellectual capital and high overheads in the engineering consulting activity abroad. Size was not a part of the Hill et al. framework although it has been identified in other entry mode studies as a determinant of the choice of legal form.

This study contributes in two other important ways. First, it has attempted to operationalize difficult to measure concepts such as the professional service characteristics and the nature of knowledge. This was an important first step or a prerequisite for understanding the role of these factors in the entry mode process. The measures could be further refined in future research. Second, this study emphasizes the significance of unique industry characteristics, a project orientation being central to the engineering consulting industry.

In sum, this study arrives at a theoretical framework for overseas entry mode decisions of engineering consulting firms, one type of professional service firm. It goes beyond the Hill et al. framework by drawing attention to the foundation of these firms defined by their professional service characteristics and the project based nature of activity. In fact, this further redefines or reshapes the factors in the Hill et al framework including the entry mode construct itself. In this sense this study is not just an expansion or minor modification of the Hill et al. framework but it arrives at a theoretical framework for entry mode decisions that is built on an understanding of the basic foundational elements of these firms.

The above discussion provides the highlights of the study that enrich our understanding of the overseas entry mode process of engineering consulting firms. It elucidates in particular the role of professional service characteristics of engineering consulting and features idiosyncratic to the industry. It also draws attention to the scope for further research in the *process* aspect of entry mode. This issue warrants some discussion.

Further exploration of the process aspect of entry mode : An avenue for future research

As is clear, the study has uncovered two things about the entry modes of engineering consulting firms. One, entry mode is a process and two, it is a multidimensional construct involving decisions around five different aspects. Decisions with respect to each aspect or dimension may be made at different points in time. The entry mode decision, therefore, has an "emergent" quality. As opposed to being a static one time unitary decision the mode of entry into a country is a multidimensional process that emerges or evolves over time. Thus, the entry mode choice is not very purposefully and deliberately made in advance but takes on the characteristic of an *emergent strategy* (Mintzberg and Waters, 1985; Minzberg, 1987). In fact, this raises the question about the appropriateness of using the term *decision*.

The qualitative analyses in the first phase of the study drew attention to how different firms have different configurations of the various aspects or dimensions of entry mode at a particular point in time. The study, however, does not delve further into whether there is a pattern or sequence in which the decisions regarding the five dimensions of entry mode materialize or if there are distinct patterns by which different firms could be categorized. One methodological limitation of the second phase of the research was its inability to capture the processual aspect of mode of entry. It was appropriate for understanding the role of different factors in affecting various aspects of the process. But it did not shed light on the *process*, especially in revealing if there was any sequence in which the decisions around the different aspects were typically made.

For future research it will be interesting to explore the entire process of entry from the time of the firm's first entry into the host country until a current point in time. Studying the process will provide a more realistic picture of how the events unfold in the processual sequence and shape the decisions made at different points or stages in the process. This may reveal if the process unfolds differently for different firms and if firms can actually be classified by varied patterns of entry mode. Further, comparisons can be made across firms to determine why different patterns emerge.

For example, variations could be attributed to particular events specific to a firm and its historical context, to environmental factors in various host countries and so on. Teasing out patterns and understanding the underlying mechanisms that give rise to the differences can be captured by analyzing the process. One thing that remains unclear in this study is what qualifies as a permanent degree of presence, that is, how many years of presence in a country constitute a permanent degree of presence. A processual analysis will help determine if there are any key transition points to higher degrees of permanency in the entire entry mode process. Thus, as an area for future research, understanding the process aspect of mode of entry and uncovering patterns, if they exist, will be interesting and inform the entry mode processes of not only engineering consulting but other project based activities as well.

In the final and concluding section, I discuss the implications of this research for the entry mode literature and for studying professional service firms. I also draw attention to how this research might be useful from a practical standpoint.

Implications of research for entry mode literature and for professional service firm research

This study adds to the entry mode literature the knowledge of entry mode decisions of a professional service industry. Lack of research in entry modes of professional service firms is a definite gap in the literature and this study serves to narrow the gap. Theoretically, the more pertinent question to ask of this study is if it points to a need for a different conceptual framework for PSFs than that is provided by past entry mode research. Given the status of research in entry modes of PSFs, it is difficult to say anything conclusively about the need for a completely new framework.

But this one study has led me to believe that a theoretical framework for entry mode decisions of PSFs is more than just the result of minor modifications and additions to the existing entry mode decision model. This is supported by two things that the study confirms. First, professional service firms are different. Second, within the professional services sector there is much heterogeneity and the idiosyncratic nature of the industry has a significant bearing on entry mode decisions. In fact, this study is a convincing illustration of the value of doing industry specific studies to be able to capture the nuances of a particular industry. In engineering consulting, the project based nature of business has been key in shaping the entry mode decision framework. Each of these issues is discussed in the next two sections below.

Professional service firms are different. Differences between manufacturing and professional service firms stem from two factors. First, they are different in terms of what they do and what they perceive as a "product". Second, they are different in the nature of their core assets. What manufacturing firms do is much more routinized, standardized and depersonalized. The notion of a product is tangible and measurable. On the other hand, professional services sell a process and this study reaffirms this in the context of engineering consulting firms. These firms clearly do not compete only on making better designs but on the process of service creation that culminates in something tangible, a design. The process entails problem solving through application of different types of knowledge, customization, human interaction, relationship building, and alleviating uncertainty, all which are at the kernel of what these firms sell and herein lies their competitive advantage. This is a big factor in explaining why entry mode for these firms is more than just a choice of legal form. Other dimensions become important. Clearly, what the firms sell and what they perceive as their product is shown in this study to be important in affecting different aspects of entry mode.

The nature of the core assets is different. Manufacturing is dominated by fixed assets that can be replicated, that are not mobile, and it derive economies of scale mainly from production or use of technology. In engineering consulting and other professional services, people are the main asset. People are not replicable, they are mobile and offer limited and different types of economies arising mainly from their mobile nature. People hold knowledge. People team together and hold knowledge as a team. They comprise the organization as a whole. People build relationships. People build a reputation because the business is highly personalized and the organization comes to acquire a reputation through them. People are difficult to replicate in terms of experience and quality. Teams comprising the people are even harder to replicate. The difficulty in replicating people and teams in turn would make it difficult to recreate a whole firm. This study demonstrates the central role of people and the knowledge they hold in affecting different facets of entry mode and shaping the effect of other factors.

If one were to compare the framework arrived at in this study with the Hill et al. framework, the starting point for this study, there is an overlap in the determinants of the entry mode decision in both the frameworks. Global economies are relevant, country specific environmental variables are relevant, transaction specific factors such as the nature of knowledge is relevant. But this study sheds light on the importance of understanding what these concepts really mean in the context of professional service firms, more specifically in the context of engineering consulting. Global economies arise in this industry from the mobility of staff, which provides these firms more options in the choice of mode of entry. Country specific variables are important but their impact is countered again by the mobile nature of the core asset. Transaction cost issues such as the threat of opportunism is mitigated by the difficulty in replicating knowledge held by people thus introducing flexibility in the choice of legal form.

The way these factors operate in the context of PSFs takes away the determinism from the model. Thus, a rather deterministic entry mode model is transformed into a much less deterministic one in the context of PSFs with many more options built into it. This is because manufacturing and PSFs are built on different foundations and different competencies. In some sense it is like comparing apples and oranges. This study quite convincingly demonstrates this in the context of entry mode decisions and consequently, raises an important theoretical question about how research in PSFs should be approached. Existing theoretical frameworks or knowledge grounded in manufacturing is certainly a rich resource and a good place to start for exploring PSFs. But the critical issue is how this existing knowledge is utilized. The approach should not be to situate PSFs within the confines of existing models and produce variations of the models to achieve a fit. Rather, this study points to the need to understand existing models in the context of PSFs. In other words, PSFs should be used to substantially inform theory rather than have existing theory define the boundaries with some room for modification. Implicit in the approach of directly applying existing frameworks to PSFs is the assumption that PSFs are *like* manufacturing, only somewhat different. This approach detracts from truly understanding the firms. Existing research in PSFs and this study demonstrate that the generic characteristics that are used to characterize these firms are not mere modifiers but are innate to the firms. Based on this an argument can also be made that the approach to studying PSFs needs to go beyond aiming for modifications and variations of existing models. Having said that this raises issues about methodology.

This study clearly started with a strong theoretical framework and was modified by adding on professional service characteristics. However, this framework was only used to provide a starting point for a more in depth exploration of the firms and their entry modes. The qualitative phase of the study allowed me to distance myself from a rigid framework and to approach these firms for what they are. This facilitated understanding what the elements of the existing model mean in the context of these firms and what else might be salient. The second phase continued the process of exploration with the objective of seeking more clarification of what was observed in the first phase. Qualitative or mixed methodologies are more appropriate to achieve the objective of theory building for professional service firms.

Industry specific studies. An important implication of this study is that it illustrates the advantages of industry specific studies in the professional services sector. The project based nature of engineering consulting obviously has a significant bearing on its entry mode decisions. The concept of entry into a country and consequently the mode of entry assume a different meaning on account of the project by project entry of these firms. In fact, the study indicates that the professional service characteristics take on a specific meaning in the context of idiosyncratic features of the service. The role of people as an asset takes on greater relevance since relationship building is critical in a project based business. Reputation assumes greater significance because a firm's survival is incumbent on a continuing flow of projects. The degree of customization is very high as each project is unique. Therefore, the processes that these firms sell need to be adapted project by project. It was possible to so fully capture the project based nature of this industry and understand its implications for entry mode because it was a single industry study.

At the same time, the knowledge and insights that this study brings forth are not just limited to engineering consulting but can also inform international entry decisions of other businesses that have a project orientation and enter an overseas market on a project basis. For example, within the professional services sector, management consulting is another project based activity and this study could be useful in understanding its overseas market entry decisions. Other than professional service firms, health care organizations entering international markets can be particularly interesting to examine within the entry mode process framework arrived in this study. These organizations provide services internationally on a project by project basis, especially in developing countries. Some of the issues that these organizations face related to their entry mode process are likely to be similar to engineering consulting not only because they are project oriented but also render a service and rely on people as the main asset.

Overall, this research has three implications. First, theory building for professional service firms needs to move beyond minor modifications and variations to existing theoretical frameworks. This is especially true for research in various aspects of internationalization of these firms. Second, qualitative modes of enquiry are likely to be most appropriate to understand these firms for their own sake, unencumbered by the need to view them in terms of their degree of likeness to manufacturing. In-depth qualitative studies will also help operationalize difficult concepts amenable to further more systematic quantitative investigation. Third, given that professional services are heterogeneous and research in PSFs is still in its infancy, industry based studies are a logical path to follow for theory building.

Professional service firms are an important source of knowledge creation in the global economy and are growing in influence at an unprecedented rate. The change in the role of PSFs is occurring too fast, putting managers up against mounting challenges in organizing and managing these complex firms. This study particularly reflects the conflict and constraints managers experience in dealing with the difficult to replicate intellectual capital and high overheads on the one hand and the need to expand their project base and clientele internationally while maintaining consistency in quality and the element of innovation. This research, therefore, not only adds value theoretically in the areas of organizational theory and international management but also has practical implications. It is a step towards assisting those managing these firms, particularly the global aspects, in understanding what makes these firms different. While it is of direct relevance to managers in the engineering consulting industry it can also be illuminating for other professional service industries such as accounting, management consulting, and law which share a common foundation in terms of the core asset and in being service providers and problem solvers.

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APPENDIX A
PHASE ONE: INTERVIEW SCHEDULE

I briefly explain my research question.

SECTION I. General background and context

1. Can we start with a brief history of your firm? When was it founded and how have its operations changed from the time of its founding? What are your areas of specialization and the range of services you offer to the client? (See sections six and seven of interview protocol for details).

2. Currently, what is the size of your firm in terms of the number of staff? Is this a partnership form of organization? How many partners? Who does the rest of the staff comprise?

3. Can you briefly talk about your domestic operations?

   Follow up questions:
   - No. of branches/subsidiaries in the country
   - What kind of competition do you face?
   - What is your market share?
   - What have the market conditions been - growing, maturing, changes in govt. regulations?

4. Let's move on to your international operations? Can you provide a brief history - when did you go international and why?

   Follow up questions:
   - Which countries did you enter first and why?
   - Which countries are you operating in at present?
   - Who are your clients - private individuals, other engineering firms, host country governments?
   - Could I get a copy of your firm's brochure and any other written material on its domestic and international operations?

SECTION II: Modes of entry or modes of delivery of service in international markets

1. Which markets or countries are you operating in? How did you enter these markets - by joint ventures, solely owned venture or just sending a team of people there....? (Researcher fills out the matrix with at least 3-4 examples, see section eight of interview schedule for details).

Follow up questions:

- Can you give a rough idea of the number of each type of mode of entry used for your foreign assignments in the past 5 to 7 years.
- Seek clarifications on the different types of modes - possible equivalents with those in the manufacturing sector, e.g., is an independent office in the host country a wholly owned subsidiary or green-field venture?
- Joint venture - what kind? What is the basis of control in a joint venture or any other alliance or association - equity-based or expertise based or on the basis of the range of activities or which particular part of the activities the partner is performing?
- Exports (if any) What do exports mean in context of your business? What are you exporting and how? Similarly, about other non-equity contractual modes. Do you export directly to the client or to another consultant in the host country?

2. Fill out a short survey:

- Different types of modes adopted by the company in the past 5-7 years ------------------
- How many of each type and in which country---

SECTION III: Nature of PSFs (engineering consulting in particular) and its implications for the choice of mode

1. Can you talk in detail about all the activities involved in delivering a service to a particular client, starting with how you and the client got in touch right to the final product? You could take any specific example of a project done recently.

1a: Follow up questions: nature of service

- What exactly are you delivering to the client at different stages of the service production process? Different types of knowledge?
- Can you put what you are delivering (ideas or knowledge) on paper or some visible, tangible form? What impact does that have on the client? If what you sell is highly intangible, does the client feel insecure, uncertain about the quality of the final outcome etc.? What do you do to convince the client or win his/her confidence?
- Does the intangibility make it difficult to fix a price or fees for your services, given the client's uncertainty?
- In the initial negotiations with a potential client, how much do you reveal the basic engineering design? Have you encountered situations where the client walks away with your basic ideas? How do deal with that? Especially in case of exports where you may be providing just the design, do you see this kind of opportunism.

1b: Follow up questions: client-consultant interaction

- Could you please elaborate on the role of personal interaction between you and the client?
- What stages of the service delivery process, you just described, is the interaction necessary?
- Can you manage the interaction by e-mail, faxes, telephone calls etc. or do you feel the need to be present in the same place as the client?
- Why is this personal interaction important? (to inculcate trust and security in the client, establish reputation and credibility.....)
- Is it possible to specify a conclusive contract with the client at the time of finalizing the initial contract? Or is there continuous bargaining, negotiating, and modifications at the time of executing the contract?

1c: Follow up questions: inseparability

- Do you think that your service requires the provider and the client to be present at the same place, i.e., do you see it as a service which requires it's production and consumption to be simultaneous?
- Or does this inseparability hold for only certain parts of service delivery process or for delivering certain types of knowledge. Please explain.

1d: Follow up questions: customization

- Are your services highly customized or tailor-made to a particular project or is there possibility of repetitive use of the designs? What is it that can be repeated? In that case, do you run the risk of your designs being disseminated - used by clients who may be another engineering firm or by joint venture partners? Is that possible?
- Regarding customization - does it involve a lot of participation of the client? Does it call for more frequent interaction with the client - continuous negotiations because there is greater uncertainty involved?

2. How do you perceive the nature of your business as compared to manufacturing? What are the features of professional services such as yours that are 'unique' and differentiate you from a manufacturing firm?

SECTION IV: Entry into a specific overseas market

1. I would now like to turn to your entry mode decisions. It might be easier to focus on any one project or assignment you are doing in a particular country. Please tell me the story of your actual entry into this country? Why this country? What mode did you use to enter this country and most importantly why did you choose this mode?

1a: Follow up questions: psf characteristics

- Did the type or nature of knowledge that you were delivering affect your choice of mode? Could it be exported or transferred by another contractual form? If not, why not? You could have chosen any one of a greenfield or just sending a team of people or setting up a joint venture if you wanted to be on site (or in case of inseparability). So how did you make this choice?
- Did the lack of tangibility or visibility of what you were selling affect your choice of mode?
- The need to establish a reputation and credibility quickly - any effect on choice of mode?
- Does a high level of customization make one mode more suitable than another?

1b: Follow up questions: environmental issues

- Market size of the host country
- Political condition
- Govt. regulations with respect to local content requirements, repatriation of profits, currency convertibility, price controls
- Rules laid down by professional associations
- Cultural issues - business practices, bargaining practices, perceptions of quality, language, communication patterns, need to customize to a different geographical terrain, different raw materials
- Previous experience in the country or a similar environment
- Size of your firm

1c: Follow up questions: global strategic variables

- Do you find yourself competing with more or less the same set of players in different markets? If yes, does that put pressure on you to establish a presence in the host country?
- If you see potential demand in a country or a region would you set up an office even if you did not have any work - a strategic motive?
- In your business are there any global economies of scale and scope which might influence your choice of mode of entry into a certain country?

1d: Follow up questions: uncertainty, asset specificity, opportunism

- Do you see a lot of uncertainty right from the formation of the contract to the end product? Do you make a lot of investment specific to a project which may not find an alternative use, thus causing the client to be opportunistic? How do you minimize that risk? Any implications for the mode you might choose?
- In a joint venture or any other form of alliance, can a partner walk away with the knowledge you are providing? If yes, does that deter you from adopting that mode?

SECTION V: Some questions to sum up

1. Allude to some of the other entries. Say if a certain mode like joint ventures dominates - Is this because of the nature of the business, other factors? In this other case, you went in for a solely owned office - why not a joint venture - what was different about this situation. Or why an acquisition in another case? Or why **just** joint ventures?

2. What do you consider as your competitive advantage in the international market?

SECTON VI: TYPES OF SERVICES OFFERED BY YOUR ENGINEERING CONSULTANTS – PLEASE CHECK

1. Pre-feasibility/ Pre-investment/ Feasibility studies
2. Market/Tariff studies
3. Economic and cost-benefit analysis
4. Research and development
5. Patents
6. Preliminary\final design
7. Quantity Surveying/Cost estimating
8. Contract documents and bid evaluations
9. Supervision/Inspection of Construction
10. Construction Management
11. Project Management
12. Technical assistance
13. Start-up operations
14. Product/Production Technology and management
15. Process evaluation and Selection
16. Quality Control
17. Operations and maintenance planning
18. Training and transfer of technology
19. Accident Investigation

20. Arbitration
21. Inspection/Testing/Laboratory Analysis

SECTION VII: ENGINEERING CONSULTING - SPECIALIZATIONS

Specialization	Agriculture	Communications	Energy	Environment	Forestry	Geology	Oil & gas	Mining & metallurgy	MuniCipal	TransPort	Water &

SECTION III: DIFFERENT MODES IN DIFFERENT COUNTRIES – MATRIX

1. Different types of modes adopted by the company in the past 5-7 years.

2. How many of each type and in which country?

APPENDIX B

List of Conceptual Categories (Nodes) and Subcategories (Sub-nodes) created in Nud*ist Analysis

- **Basic company information –**
  - Historical back ground
  - Factual data - size, revenue, specialization, countries of operation, offices

- **Entry mode process – four dimensions**
  - Degree of Presence (temporary , transitory, permanent)
  - Focus (project, market, evolving)
  - Legal form
    - Partnership – associations; subcontractual agreements; temporary joint venture; permanent joint venture
    - Solely owned venture
    - Acquisition

  - Physical presence
    - No office - frequent visits, e-mails and faxes
    - Office - Project office, 2-10 persons office, Larger liaison office Design office, Country office, Regional office

- **Professional service firm characteristics**
  - Credibility or reputation
    - Technical expertise
    - Relational skills
  - Intangibility
    - Nature of product
  - Consultant client interaction – need for client-consultant interaction
  - Degree of Customization
  - Human assets
    - Overheads
    - Nature of intellectual capital –difficulty in replication
  - Inseparability

- **Relationships**
  - Prior relationships with clients
  - Prior relationships with business partners
    - Home country
    - Host country
  - Relationship building with clients
  - Relationship building with business partners
    - Home country
    - Host country
  - Relationship building with business networks in host country

- **Transaction costs variables**
  - Types of knowledge
    - ☐ Individually held knowledge
    - ☐ Team based knowledge
    - ☐ Organizationally held knowledge
    - ☐ Replication of knowledge

  - Opportunism
    - ☐ Business Partners
    - ☐ Clients
    - ☐ Opportunism and knowledge
    - ☐ Opportunism and legal form

- **Client's preferences**
  - Client's preferences - continuous interaction, stability and commitment, for expertise of specific firms

- **Project specific characteristics**
  - Range of services performed
  - Organization and coordination
    - ☐ Logistics of work – execution of projects

- **Firm specific issues**
  - Size
  - Degree of multinational experience
  - Prior experience in host country

- **Country specific issues**
    - ☐ Demand conditions
    - ☐ Culture and business practices
    - ☐ Political environment
    - ☐ Government regulations
    - ☐ Level of technical and managerial expertise
    - ☐ Nature of client base

- **Global strategic variables**
    - ☐ Use of existing network of offices
    - ☐ Economies in the use of a team
    - ☐ Economies for a diversified firm

APPENDIX C

EXAMPLES OF FIRM-WISE PROFILES OF THE FOUR DIMENSIONS OF THE ENTRY MODE VARIABLE

1. ABC International

Staff: 800
International work: 30 years
Specializations: general consulting engineering, electric, power, transportation, agriculture, economics, environmental
Services: prefeasibility, feasibility, all design work, supervision of construction

Country	Presence	Legal Mode	Physical Presence	Focus
Ghana	Permanent: after first project lot of work followed; been working there 25 years	Solely run project teams	Project offices on client's premises	Market focus evolved from a project focus
Thailand	Permanent: after first project a succession of projects followed; working 25 years	Solely run project teams	Project offices on client's premises	Market focus evolved from a project focus
Iran	Permanent: working there 15-20 years	1. joint venture or an ongoing technology concern with a local; provide technology assistance. 2. do many other projects in irrigation, power, mining etc. other than above	Office or support center that looks for more work and coordinates existing work; supports employees coming and going	Market focus evolved from a project focus
India	Permanent	Permanent joint venture (created almost immediately probably due to excellent credentials and past reputation of local partner)		Market
Chile	Transitory (lot of market potential); working 5 years	permanent joint venture (did it almost immediately due to very bright prospects - lot of infrastructural work available)		Market

2. XYZ Inc.

Staff: 300 (large for a building services - mechanical and electrical)
International work: 12 yrs (approx.)(did some work in the 1970s)
Specializations: mechanical, electrical engineering for commercial buildings, sports stadiums, airconditioning systems, electrical systems and lighting, fire alarm systems
Services: prefeasibility, feasibiity studies, design, supervision of construction on a limited basis, construction administration
International revenue: 60%

Country	Presence	Legal Mode	Physical Presence	Focus
London	Permanent (been there for ten years; it started with the client going there -"client and a project and grew from there..")	Branch office or wholly owned subsidiary		Project (2 large projects)
Germany	Temporary (one big ongoing project encompasses 5 buildings, two of which NY based architects are working with this firm in NY; 3 handled by German architects along with the German engineering consulting firm, the joint venture partner)	Permanent joint venture*	1. very frequent visits to Germany in the course of the project) 2. a small office with one local person a receptionist who answers the phone - marketing/ sales office	Project
Malaysia	Temporary (3 projects underway)	Subcontractual with NY based architects, also subconsultant to a Malay engineering firm even though this firm does no design work	One person on project site	Project
Hong Kong	Transitory	Subcontractual relationship	Located in a local engineering firm's premises**	Evolving from a project focus to market
Korea	Missing Information	Contractually working for owner. A local firm involved but no formal contract between US firm and that firm but informal contact important	Missing Information	Missing Information
China	Transitory or almost permanent (sounds like many jobs have been done there over some time)	Subconsultant to US based architects and associate with Chinese design institute	One person on owner's premises in case of a particular project***	Market

*the joint venture exists on paper only required by govt. regulations and for tax reasons. No people there and small team sent there when handing over the final design, which is completed in NY in association with NY based architects.

**there is no contractual relationship with the local firm. The US firm hires this firm's services on an as needed basis for doing small pieces of work. In the long term the US firm plans to establish a more permanent relationship with the local firm in the form of a permanent joint venture or an acquisition. his also illustrates how certain relationships arising at the project level influence the 'form' of permanent presence - in this case it is likely to be a partnership or acquisition.

***the owner/client on this project wanted a full time representative. But in general the need for physical presence seems to be minimized because the Chinese partners, the design institutes, can handle the detailed engineering part after the US firm completes the conceptual design.

3. HLW
Staff: 266
International work: 25 years
Specialization:architecture-engineering firm - mechanical, electrical, plumbing, fire protection and structural engineering design
Service: prefeasibility, feasibility, design; construction management and project management done on a small scale
International revenue: 25%

Country	Presence	Legal Mode	Physical Presence	Focus
China	Transitory (been there 2-3 yrs; couple of projects going on)	Associations or subcontractual arrangement with local partner (the firm may be either the lead firm or the subconsultant)	One room representative office*	Market**
Saudi Arabia	Temporary (2 projects done)	Joint venture (creating separate entity)***		Project
Jordan		In the process of creating a wholly owned office****		Market/regional

*this office was opened after there was enough activity going on in Shanghai. There is a receptionist there. No other staff on a permanent basis. Teams of engineers come and go and use that office; it serves as a contact point for clients.

**entered the first time round to target the market - a deliberate strategy.

***for each of the two projects a joint venture entity had to be created due to govt. regulations.

****this is to circumvent the requirement to do a joint venture in Saudi Arabia. The Jordan office will serve the Saudi market. The firm is waiting for a large project/s opportunity in the Middle East.

4. Tams Consultants

Staff: 500

International work: 50 year, decreased dramatically since the 1970s

Specializations: transportation projects involving roads, airports, railroads, ports; do a bit of energy, environmental, irrigation, water supply projects

Services: feasibility studies, final designs, preparation of bid documents, supervision of construction

International revenue: 20% (fell from 70% in the late 60s)

Country	Presence	Legal Mode	Physical Presence	Focus
Equador	Transitory	Wholly owned registered office*		Project (first entered on landing a project and grew from there)
Egypt	Transitory	Association	Joint office with the local associate	Market (completed the first project and the associates together are now looking for more work)
Ethiopia	Transitory	Solely run teams	Small office	Market

*registered the firm there as per govt. regulations. The office serves ongoing projects as some design work is done there. It is also actively looking for more work. It is staffed on a need basis. So a firm has been created there legally but teams of people come and go depending on the project work.

APPENDIX D
PHASE TWO: INTERVIEW SCHEDULE

Section A: General questions

AI What are the areas of specialization of the firm? Explain the kind of work involved in this area. If there is more than one area which is the dominant one in terms of percentage of total revenue?

____

____

A2 What is the size of your firm in terms of the number of employees in all offices?

A3 What is the total revenue of the firm?

A4 When did your firm start doing overseas projects?

A5 Approximately, what percent of the total revenue comes from international operations?

A6 What countries are you currently doing projects in?

____

____

A7 I would now like to focus on the firm's operations in country x.

A8 What percent of your total revenue is represented by the operations in country x? ____________________

Section B: Four dimensions of the entry mode variable (dependent variable)

B1 Presence

B1a How many years is it since the firm's first entry into country x?

____

B1b How many projects has the firm done in the host country (include projects in progress)?

____

B1c Please give the dates when each project started and ended (completion dates wherever applicable)?

	Start date	Completion date
Proj 1		
Proj 2		
Proj 3		
Proj 4		

B2: Focus

B2a Did the firm enter the host country after being awarded a project?

Yes__________ No__________

B2b After getting and starting the first project was there an effort to look for more project opportunities locally in the host country as well as in the region around the country? What did you do to scout for more work?

Yes __________ No __________

B2c Did the firm enter the host country with the deliberate strategy to exploit it as a market, that is, before being awarded any project? Comments

Yes __________ No __________

B2d At the time of your firm's first involvement in the host country (Y or N)

1. Did the firm have a staff member/s who had prior relationships in the host country?
2. Did the firm have a prior relationship with a business partner in the host country?
3. Did another professional firm (engineering, architectural firms etc) have prior relationships in the host country through which your firm got the opportunity to be involved in the project?
4. Did the firm have a prior history of working for the client?
5. Did the firm follow a client into the host country?
6. Was the first project obtained through CIDA, World Bank, or other financial institutions?

B2e To what extent do you think were the following factors instrumental in the firm getting more project opportunities (that is after the first or second project) in the host country:

	1 To no extent	2 To a small extent	3 To a fair extent	4 To a considerable extent	5 To a great extent
The World Bank or other Financial institutions					
Relationships built in the course of past projects with another engineering consulting or other professional firm in the host country					
Relationships built with another professional firm in the home country					
Relationships built with clients over previous projects					
Relationships with people in the govt. and business network of the host country					

B3 Legal form

B3a What type of legal arrangement was made in case of each of the projects in country x? (In the case of associations was the firm a prime/lead partner or the subcontractor/subconsultant? The terms subcontractor and subconsultant are used interchangeably in the questionnaire):

	Project 1	Project 2	Project 3	Project 4	Project 5	Arrangements continuing beyond the length of the projects
Single firm project						
a temporary/project joint venture						
Subcontract/association						
solely owned company or subsidiary						
permanent joint venture						
Acquisitions						
Other						
CLIENT TYPE						

B3b (If applicable) At what stage did you set up a wholly owned office or an acquisition or a permanent joint venture (whatever the case)?:

1. before getting any project
2. after being awarded one project
3. after getting a second project
4. after getting a third project
5. other ____________________

B3c Let's talk about your most recent project. Which of the following services did you provide in the case of this project?

1. feasibility studies -------
2. conceptual designs -------
3. detailed engineering -------
4. supervision of construction -------

B3d Was this project under discussion obtained through CIDA or the World Bank or other financial institution?

Yes ________ No ________

B3e Did your firm get this project opportunity due to the personal relationship of a staff member of the firm?

Yes ________ No ________

B3f Was a prior relationship of your firm with another professional firm in the home country (e.g., architect, another engineering consulting firm) instrumental in getting you this project in the host country?

Yes ________ No ________

B3g Did your firm work on more than one project for the same client?

Yes __________ No _________

B3h Did you collaborate with the same business partner in a previous project?

Yes ________ No __________

If yes, how did the nature of the legal arrangement change in the course of working on the projects? (Circle)

1. continued as an association
2. continued as a temporary joint venture
3. changed from association or temp joint venture to a permanent joint venture
4. changed from association or temp joint venture to a solely owned venture
5. started and continued as permanent joint venture
6 other

B3I How many firms were involved in the case of this project?
Where was each of the firms located?
With which of the firms did your firm have a legal contract?

B3j In terms of the logistics of work, with which firm/s in the team did you have to interact most frequently?
Where is this firm located?

1. Home country
2. Host country
3. Other

B3k Did your firm have a direct legal contract with the final client?

Yes__________ No___________

If not, which of the firms had a direct legal contract with the client?

B3l 1. In the context of the host country did you need direct interaction with the client or another firm on the team to get the work done even though there was no contractual or legal connection ? In other words, was there a divergence between the legal channels and the channels of actual interaction during the implementation of the project ?

Yes__________ No___________

2. What mode of communication and interaction with those parties did you use?
Frequent visits
Telephones and faxes
Project office
Small liaison office

Team of staff temporarily set up at a local firm's premises or in the client's premises

B3m Based on the experience of all the projects in the host country to what extent does the legal arrangement adopted or the legal channels affect the way you work to get the project done or the methodology of work

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Comment:

B3n To what degree do you agree with the following statement - the legal arrangement adopted

1. provides a framework for liability issues

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

2. provides a framework for getting paid

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

Comment:

B4 Physical Presence

B4a What kind of offices (or combination of offices) did your firm have at the following different stages of the series of projects?

	Project 1	Project 2	Project 3	Project 4
Frequent visits				
Project office				
Use of client's or subconsultant's premises				
one person token office				
2-10 person sales office				
Larger liaison office				
Country office				
Regional office				
full fledged design office				
Other				

B4b What kind of office did you establish in the host country at first and how has it changed in terms of the number of staff and the functions it performs over the time you have been there?

B4c Do you have an existing network of different types of offices globally?

Yes ________ No________

B4d Are you using staff/expertise from the existing network of offices for this project?
Yes ________ No________

Which country is the office located? Are you getting staff in to the host country or doing some work there itself?

B4e Did you use services of offices in other countries for previous projects?
Comment:

Section C: Professional service firm characteristics (PSF characteristics)

C1 Credibility or reputation

C1a Credibility and reputation seem critical for winning projects in your business. From the perspective of the client how would you rate the importance of the following dimensions of reputation:

1. reputation for technical competence

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

2. reputation for reliability

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

3. reputation for managing a working relationship by creating a personal rapport with clients and business partners

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

C1b Please rate the extent to which you do the following to convince the client about the firm's reputation:

1. show the client a record of past experience, especially similar projects done in the past

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. obtain references from previous clients and business partners reflecting their experience in interacting with your firm

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. show the past experience and credentials of individual staff members who are involved in the project

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. maintain continuous interaction and communication during the prebidding or initial stages to build the client's confidence

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C1c To what extent do you think the reputation established in the course of previous collaborations (say the first project) lead to this project opportunity.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C2 Intangibility

C2a Do you agree that your firm's service is intangible? If yes, to what extent do you agree with the following statements about the different dimensions of intangibility of your service:

1. "People" seem to be the most critical asset in your business. You are selling the intellect, the expertise, and the experience of your people that are intangible.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

2. The intangibles in this business are the relationships the firm establishes both with clients and business partners.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

3. Understanding what the client wants requires a lot of judgement and opinions because he or she is unable to clearly write down what exactly he/she wants.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

C2b To what extent do you deal with any uncertainties in the minds of the clients (about the quality of the final outcome) in the following ways:

1. by relying on a prior personal rapport with the client

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. by continuous interaction with the client in the prebidding or the initial stage itself helps establish trust and confidence

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. demonstrating past experience in doing similar work and references from those clients

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. relying on past experience of having worked in same cultural context to win the client's confidence

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C3 Consultant-client interaction

C3a Is there need for face to face interaction with the client during different stages of a project? To what extent is the need for continuous face to face interaction with the client due to the following factors?

1. You need to interact with the client face to face to gain a good understanding of the client and his or her requirements.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. You need the interaction with the client to create a rapport to inculcate trust and confidence.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. Since projects are not static but dynamic and unfolding the interaction is important to deal with all the changes and contingencies that unfold in the process

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C3c Did you use e-mails and faxes in the course of this project?
Yes______ No________
Comment: During any particular stages of the project?

C3d To what extent do you agree with the following statements about the effectiveness of electronic communication with the client?

1. The internet is a great management supplement letting you stay in touch and send documents but it is not a substitute for physical presence

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. E-mails and faxes are a mode of communication, not necessarily a means of building a strong relationship

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C4 Customization

C4a To what extent do you agree with the following statements about the degree of customization involved in the designs made by the firm:

1. There is no cookbook formula to do any design. Some of the basic concepts apply but when and where to apply them is customized to a project.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

2. The processes for arriving at designs are different almost each and every time. There is not a lot of rubber-stamping or a cookie cutter approach to the designs

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

C4b 1. How would you rate the degree of customization for the design made for this project?

1	2	3	4	5
very low	low	undecided	high	very high

2. To what extent do you think this design can be copied or reused for other projects?

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C4c To what extent did the following factors create the need to customize designs:

1. environmental and other conditions were not identical

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. the client had specific preferences calling for innovativeness in the final design

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. Other:__________________

C5 Human resources as the dominant asset

Overheads

C5a To what extent do you agree that people or human resources are the dominant asset in your business?

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

C5b What percent of the total cost of maintaining an office represented by personnel related costs (e.g., salaries etc.)?

Home country office___________ Host country office_____________

C5c How many permanent staff do you have in your host country office? _____

C5d What is the composition of the staff in your office in the host country (if applicable)?

1. all from the home country
2. all from host country
3. a few from home country and the majority from host country
4. permanent staff from home country and locals hired on need basis

Nature of human capital

C5e To what extent do you agree with the statement, "People are people, they are not machines. You have identical machines, you make them here or there, the quality is going to be the same. But in this business it is the people's mind that is the critical asset. In a highly knowledge intensive business you are only as good as the people".

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C5f To what extent do you think it is difficult to replicate expertise of the same quality in another office of your firm? Comments.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C6 Inseparability

C6a To what extent was it important for the client and the consultants (people from your firm) to be physically present in the same place during different stages of this project:

		1 not at all	2 to some extent	3 to great extent
1	Prebidding			
2	Feasibility studies			
3	Conceptual design			
4	Detailed engineering			
5	Construction supervision			

Section D: Nature of knowledge

D1 Individually held knowledge

D1a To what extent are each of the following dimensions or characteristics of individuals (staff members) involved in the projects of the firm critical for the business:

1. the individual's technical engineering knowledge (i.e., engineering concepts and formulas)

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. individual experience in the application of technical knowledge or in the process of tying together basic concepts to arrive at the final design

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. the individual's ability to adapt the engineering knowledge to specific needs of different clients

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. the individual's personality that is conducive to building a relationship with the client

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

D1b To what extent would the following make it difficult for a business partner to copy the firm's expertise:

1. the process of application of knowledge to any specific problem lies in the thought processes of the individuals involved

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. Experience gained by individuals in applying and adapting engineering knowledge cannot be taken away

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Comment:____________________

D2 Team based knowledge

D2a Does your firm have a well-coordinated team or teams of people who work together all the time on different projects?

Yes_____ No__________

Comments: __________________

D2b To what extent does the team or teams you use for different projects have the following characteristics:

1. it is a blend of different engineering specialities required for a project

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. there is a cohesiveness that has evolved from the collective experience of people working together for a while

1	2	3	4	5
To no extent	To a small extent	To a fair extent	To a considerable extent	To a great extent

3. working together has created some synergies, e.g., new ideas and methodologies of work

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

D2c Based on the above features of the team or teams in your firm, to what extent do you think a business partner can replicate it?

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

D2d Does the firm try to preserve the team by

1. working from the home country rather than relocating part of the team temporarily to the host country

   Yes________ No__________

2. moving the whole team to the host country

   Yes________ No__________

3. Other: Comment

D2e Do you hire free lance consultants from outside the firm, based on a project's needs, to supplement your existing team of people?

Yes ________ No___________

Comments:

D2f To what extent is it difficult to create the coordination and interaction in a team when you bring external people into the firm's team for a specific project?

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

D2g Did the client ask for a record of the previous experience of the team leader or the whole team to be involved in the project?

Yes__________ No____________

D3 Knowledge accumulated at the organizational level

D3a How important is it for an engineering consulting firm to provide organizational expertise to coordinate and manage a whole project.

1	2	3	4	5
Not important	slightly important	moderately important	very important	utmost importance

D3b Did you provide organizational expertise in the case of this project?

Yes__________ No______________

D3c What about previous projects? In how many cases did you provide organizational and managerial expertise? ____________________

D4 Gap in the level of knowledge and technical competence between the host country and home country firms

D4a As a part of the contract for this project, did your firm have an obligation to transfer knowledge to the host country business partner or client?

Yes__________ No________________

If yes, what type of knowledge did the firm transfer in the course of this project?

1. technical engineering
2. team building
3. organizational expertise

D4b How would you rate the host country local firms that you associated with relative to your firm with respect to the following issues:

1. the local firm's level of technical competence

1	2	3	4	5
much lower	lower	comparable	higher	much higher

2. the local firms/engineers managerial skills or the experience in organizing the whole project

1	2	3	4	5
much lower	lower	comparable	higher	much higher

D4c What do you think is the time lag till such time that the local business partner is able to catch up with your firm's level of expertise and become self-sufficient in

a. a couple of years
b. 5-10 years

c. 10-20 years
d. other

D5 Opportunism

D5a To what extent do you face the threat of opportunism or opportunistic behavior of the following types in your business?

	1 To no extent	2 To a small extent	3 To a fair extent	4 To a considerable extent	5 To a great extent
Business partners walking away with your knowledge or expertise					
Business partners reusing your designs					
Clients threatening to terminate a contract in the middle of a project					
Clients walking away with your ideas for a design in the prebidding stage itself to hire a cheaper consulting firm.					
Other					

D5b To what extent did the need to protect your knowledge and expertise deter you from entering into any kind of partnering arrangement such as joint ventures and associations/subcontractual agreements?

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

D5c To what extent do the following factors reduce the risk of business partners, (e.g., joint venture partners, associates/subcontractors), walking away with your knowledge and expertise:

1. the project by project nature of this industry deters a business partner from behaving opportunistically on any one project

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. engineering consulting is a peoples based business where relationships built over time with clients and business partners are critical. These are difficult to steal

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. the nature of knowledge you apply in your service is embedded in individuals' intellect. Such knowledge is difficult to copy or steal

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. the nature of knowledge you apply in your service is embedded in teams. Such knowledge is difficult to copy or steal

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

5. the processes and methodologies of work are tailored to the firm's organizational context and culture.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

6. misrepresenting facts will jeopardize the chances of a long-term relationship with your firm

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

7. clients give credence to the entire breadth of experience that a business partner cannot walk away with.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

8. the professional norms or ethics espoused by engineering consulting as a professional service are a deterrent to opportunistic behavior

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

9. Other________________________

Section E: Clients' preferences

E1 What is the nature of the client base in the host country:
1.broad and very diverse with strong preferences for different local firms
2.homogenous client base with no strong preferences for different local firms

E2 In this specific project, did the client have specific preferences with respect to the following: (Y or N)
1. what firm you partnered with
2. type of legal arrangement you formed with the business partner
3. type of physical presence you had in the host country
4. preferred the expertise of a specific office of the firm
5. preferred another professional firm's expertise for a piece of the project

E3 Clients feel that they don't just pay for the ultimate outcome in the form of the design but also for the process of interaction. So they want more frequent interaction with the international firm. To what extent do you agree with this in the context of the project?

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

E4 Did you follow a client to the host country?

Yes____________ No________________

Section F Project specific characteristics

F1 Characteristics of different stages of a project

F1a To what extent was the firm's involvement in only a part of the project affected by the following:

1. it was more cost competitive to have a local do a part of the project

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. the firm specialized in only certain aspects of the job (expertise)

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. the firm did not have adequate human resources to be able to shoulder the entire project (firm size)

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. the client had another 'favorite' firm to do a part of the project

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

F1b Did you interact with the client face to face during the prebidding or initial stage?

Yes___________ No_______________

What kind of physical presence did you have during the prebidding or initial stage?

F1c To what extent did you interact with the client during the prebidding or initial stage of a project for the following reasons?

1. To understand the client's needs which can help frame a proposal

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. To be able to explain the "qualitative" dimensions of the service the firm will be delivering (issues that do not appear in a technical proposal)

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. To build the client's trust and confidence and reduce his or her feeling of uncertainty

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

F1d Where was the conceptual design work done for this project?

	Location	
1.	host country	
2.	home country	
3.	other	

F1e For cases where the design work was done in the host country, to what extent did the following factors dictate the decision:

1. it was more cost effective to do the design work in the host country

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. need to maintain continuous interaction with the client during the design phase

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

F1f To what extent was the decision to do the design work in the home country motivated by the following:

1. the fact that all the expertise was situated there

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. the firm on the team with whom your firm needed to interact most frequently to get the work done was located in the home country

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. the firm had worked for the same client earlier and thus had a certain level of understanding and rapport that reduced the pressure to maintain close proximity to the client

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. the volume of work does not justify setting up a full-fledged design facility in the host country

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

5. to reap the economies of scale by using the team in the head office for multiple projects

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

F1g Where did you do the detailed engineering work for this project?

1.	host country	
2.	home country	
3.	other	

In cases where there was no design office, what kind of office did you set up during the detailed engineering phase? What about previous projects? Where was the detailed engineering done?

F1h To what extent did the following factors influence your decision to do the detailed engineering work in the host country?

1. the nature of the work during the detailed engineering phase called for being present near the project site

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. it being a labor intensive phase, the availability of cheaper labor in the host country

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. the govt. required the firm to involve a local firm

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. Other________________________

F1i (If applicable) Please talk a bit about the supervision of construction phase.

Summary questions

I This question is applicable only if you partnered with another home country firm. To what extent was your decision to partner with a home country firm influenced by the following factors:

		to no extent	to a small extent	to a fair extent	to a consi derable extent	to a great extent
1.	a prior history of relationship with the potential partner	1	2	3	4	5
2.	the partner firm is the lead firm that actually gets the business/projects and then subcontracts pieces of work	1	2	3	4	5
3.	client's perceptions of that firm's capabilities in certain aspects of the project work	1	2	3	4	5
4.	the reputation that the partner firm enjoys internationally	1	2	3	4	5

Other: ______________________________

II How important were the following factors in influencing your decision to partner with a local firm in the host country:

1. unfamiliarity with the country's social culture, e.g., language, work ethic

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

2. unfamiliarity with a country's business culture such as the contracting philosophy

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

3. to gain an understanding of the client base (homogenous or have different preferences)

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

4. govt. regulations requiring a portion of the project to be given to a local entity

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

5. need for contacts with local subcontractors and construction people

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

6. uncertainty about demand and adequate business in the future

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

7. client's preferences for the local firm to do a particular piece of the project

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

8. to increase the chances of winning the project as extra points are given for participation of local firms

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

9. to come up with a least cost proposal - it was cost competitive to partner with a local firm

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

III To what extent did the following factors cause you to choose an association or subcontractual arrangement over a joint venture:

		To no extent	To a small extent	To a fair extent	To a considerable extent	To a great extt
1.	it was a single project for which setting up a separate legal entity was not justified	1	2	3	4	5
2.	financial requirements for setting up a joint venture in the host country were high	1	2	3	4	5
3.	there were no competent partners available	1	2	3	4	5
4.	the clients' in the host country have preferences for different local firms	1	2	3	4	5
5.	low potential demand	1	2	3	4	5
6.	unstable political situation	1	2	3	4	5

Other:

IV. To what extent was the decision to set up a joint venture motivated by the following factors:

1. host country govt. regulations, e.g., repatriation of profits

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. your firm had partnered with the same local firm in a prior project/s and now wanted to make it a more permanent relationship

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

V To what extent did the following issues motivate the decision to set up a solely owned subsidiary:

1. The firm had prior experience in the host country and thus was familiar with the culture and had existing contacts and connections in the country

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. There was an employee in the firm who had prior experience working in the host country or originally belonged to the host country, and was ready to go and run the show there

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. There were no competent partners available in the host country

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. The need to protect knowledge and expertise of the firm from being misappropriated and taken away by business partners

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

5. Govt. regulations with respect to repatriation of profits made it necessary to set up a registered company

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

6. Other:_____________________________

VI. To what extent was the decision to make an acquisition motivated by

1. the need to quickly acquire another team with a different set of skills and expertise

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. to protect your knowledge and expertise by bringing the other firm under the same hierarchy

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

VII. How important were the following factors to the decision to set up an office (not just a project office):

		Not important	slightly important	moderately important	very important	utmost importance
1.	clients preferred to see the firm work in close proximity rather than by remote control from the head office or another office outside the host country	1	2	3	4	5
2.	it made sense in the light of potential demand	1	2	3	4	5
3.	govt. regulation required a registered office	1	2	3	4	5
4.	being "on the ground" would lead to more work because of quicker access to information and connections in business networks	1	2	3	4	5
5.	need for client-consultant interaction	1	2	3	4	5
6.	conveys a more visible commitment to the client	1	2	3	4	5

VIII How important were the following factors in driving your decision not to set up an office representing a more long term commitment in the host country:

		not important	slightly important	mod. important	very important	utmost import
1.	Low potential demand	1	2	3	4	5
2.	High overheads (e.g., salaries, rent)	1	2	3	4	5
3.	Clients' perceptions about quality and preference for the head office	1	2	3	4	5
4.	The firm that you needed to interact with the most to get the work done was located in the home country	1	2	3	4	5
5.	You had offices in surrounding countries from where you could draw on expertise	1	2	3	4	5
6.	Another division of your firm already had an infrastructure established in the host country	1	2	3	4	5
7.	Political situation unstable creating volatility in economy	1	2	3	4	5
8.	Personal security of staff in Jeopardy because of political turmoil	1	2	3	4	5

Comment: What aspect of the entry into another country is affected by factors such as cultural differences, political situation, economic situation, currency fluctuation etc.? Do they affect the decision to take up a project or do they become important only when making a more long-term commitment like setting up an office?

APPENDIX E1

Characteristics of sample of firms in Phase II of study

I Size: Number of staff

	N	Minimum	Maximum	Mean	Std. deviation
SIZE	38	5.00	7000.00	750.00	1340.15

II Revenue (in millions): Average over past five years approx.

	N	Minimum	Maximum	Mean	Std. deviation
REVENUE	31	0.45	1400.00	133.35	287.35

III Number of countries of operation

	N	Minimum	Maximum	Mean	Std. deviation
COUNTRIES	39	1.00	120.00	20.56	26.48

IV Number of world-wide offices

	N	Minimum	Maximum	Mean	Std. deviation
OFFICES	39	0.00	85.00	10.102	19.017

V Specialization of firms

Specialization	Frequency	Percent	Cumulative %
1. Oil and gas	16	41.0	41.0
2. Environmental	9	23.1	64.1
3. Geo-technical	2	5.1	69.2
4. Structural, electrical, mechanical	6	15.4	84.6
5. Communication	1	2.6	87.2
6. Civil	1	2.6	89.7
7. Municipal	2	5.1	94.9
8. Mining	2	5.1	100.0
Total	39	100	

VII Distribution of host regions

Regions of operation	Frequency	Percent	Cumulative%
1. Latin	8	20.5	20.5
America	9	23.1	43.6
2. Asia	5	12.8	56.4
3. Middle East	2	5.1	61.5
4. Africa	7	17.9	79.5
5. Russia	2	5.1	84.6
6. Australia	2	5.1	89.7
7. Caribbean	4	10.3	100.0
8. U.S.	39	100.0	
Total			

VIII Distribution of number of years of presence (PRES_YRS) in the host region

	N	Minimum	Maximum	Mean	Std. deviation
PRES_YRS	39	2.00	40.00	9.282	8.519

APPENDIX E2

TABLE 4-1: Spearman's correlation coefficients for all firm specific variables

Variable	1	2	3	4	5
1. Size[a]					
2. Revenue[a]	0.97**				
3.International revenue	0.02	0.12			
4. Countries	0.59**	0.73**	0.25		
5. Offices	0.84**	0.88**	0.29	0.65**	

[a] Logarithm of variable

** Correlation is significant at 0.01 level (2-tailed)

APPENDIX F
Measures of Relationships (Two Dimensions)

I Relationships at the time of first entering the host country

B2d At the time of your firm's first involvement in the host country (Y or N)

Variable name: REL_STAF

1. did the firm have a staff member/s who had prior relationships in the host country?

Variable name: REL_BUPH

2. did the firm have a prior relationship with a business partner in the host country?

Variable name: REL_OFRM

3. did another professional firm (engineering, architectural firms etc) have prior relationships in the host country through which your firm got the opportunity to be involved in the project?

Variable name: REL_CLT

4. did the firm have a prior history of working for the client?

Variable	Factor Loadings	
	Factor 1	Factor 2
REL_BUPH	**.691**	0.326
REL_CLT	-3.57E-02	**0.940**
REL_OFRM	**-0.617**	0.207
REL_STAF	**0.824**	-3.35E-02
Eigen values	1.540	1.031

Two factors extracted: 64.2% of variance accounted for.

Cronbach's alpha for the positively loaded items, REL_BUPH and REL_STAF, in factor 1 is 0.55. These items combined to form a composite measure of relationships in host country. REL_OFRM and REL_CLT are retained as is representing relationships with other firm and relationships with client respectively.

II Relationship building subsequent to first entering host country

B2e To what extent do you think were the following factors instrumental in the firm getting more project opportunities (that is after the first or second project) in the host country?

	1 To no extent	2 To a small extent	3 To a fair extent	4 To a considerable extent	5 To a great extent
Variable name: relb_phs Relationships built in the course of past projects with another engineering consulting or other professional firm in the host country					
Variable name: relb_phm Relationships built with another professional firm in the home country					
Variable name: relb_clt Relationships built with clients over Previous projects					
Variable name: relb_bnt Relationships with people in the govt. and business network of the host country					

Variable	Factor Loadings	
	Factor 1	Factor 2
RELB_PHS	0.123	**0.809**
RELB_BNT	-0.192	**0.760**
RELB_CLT	**0.772**	-2.62E-02
RELB_PHM	**0.806**	-3.17E-02
Eigen values	1.363	1.168

Two factors extracted: 63% of variance accounted for.

Cronbach's alpha for items loaded on factor 1: 0.50
Cronbach's alpha for items loaded on factor 2: 0.39

APPENDIX G
Measures of Professional Service Characteristics

I PSF Characteristics

CI Credibility or reputation

Credibility and reputation seem critical for winning projects in your business. From the perspective of the client how would you rate the importance of the following dimensions of reputation:

1. reputation for technical competence

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

2. reputation for reliability

1	2	3	4	5
Not important	slightly important	moderately important	very important	utmost importance

3. reputation for managing a working relationship by creating a personal rapport with clients and business partners

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

Cronbach's alpha: 0.58 for all three items
0.60 for first two items.

C2 Intangibility

Do you agree that your firm's service is intangible? If yes, to what extent do you agree with the following statements about the different dimensions of intangibility of your service:

1. "People" seem to be the most critical asset in your business. You are selling the intellect, the expertise, and the experience of your people that are intangible.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

2. The intangibles in this business are the relationships the firm establishes both with clients and business partners.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

3. Understanding what the client wants requires a lot of judgement and opinions because he or she is unable to clearly write down what exactly he/she wants.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

Cronbach's alpha for the three items: 0.73

C3 Need for Consultant-Client Interaction

Is there need for face to face interaction with the client during different stages of a project? To what extent is the need for continuous face to face interaction with the client due to the following factors?

1. You need to interact with the client face to face to gain a good understanding of the client and his or her requirements.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. You need the interaction with the client to create a rapport to inculcate trust and confidence.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. Since projects are not static but dynamic and unfolding the interaction is important to deal with all the changes and contingencies that unfold in the process

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Cronbach's alpha for the three items: 0.76.

C4 Degree of Customization

To what extent do you agree with the following statements about the degree of customization involved in the designs made by the firm:

1. There is no cookbook formula to do any design. Some of the basic concepts apply but when and where to apply them is customized to a project.

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

2*. The processes for arriving at designs are different almost each and every time. There is not a lot of rubber-stamping or a cookie cutter approach to the designs

1	2	3	4	5
strongly disagree	disagree	undecided	agree	strongly agree

*This item was excluded because because it became apparent in the interviews that it was not a good measure.

C5 Nature of Human Assets

Overheads

1. What percent of the total cost of maintaining an office represented by personnel related costs (e.g., salaries etc.)? ________________

Difficulty in replication

2. To what extent do you agree with the statement, "People are people, they are not machines. You have identical machines, you make them here or there, the quality is going to be the same. But in this business it is the people's mind that is the critical asset. In a highly knowledge intensive business you are only as good as the people".

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C6 Inseparability

To what extent was it important for the client and the consultants (people from your firm) to be physically present in the same place during different stages of this project:

		1 not at all	2 to some extent	3 to great extent
1	Prebidding			
2	Feasibility studies			
3	Conceptual and schematic design			
4	Detailed engineering			
5	Construction supervision			

II Measures of reputation enhancing and uncertainty reducing variables

C1b Please rate the extent to which you do the following to convince the client about the firm's reputation:

Variable name: PSF_IRP1

1. show the client a record of past experience, especially similar projects done in the past

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: PSF_IRP2

2. obtain references from previous clients and business partners reflecting their experience in interacting with your firm

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: PSF_IRP3

3. show the past experience and credentials of individual staff members who are involved in the project

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: PSF_IRP4

4. maintain continuous interaction and communication during the prebidding or initial stages to build the client's confidence

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

C2b To what extent do you deal with any uncertainties in the minds of the clients (about the quality of the final outcome) in the following ways:

Variable name: PSF_RIN1

1. by relying on a prior personal rapport with the client

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: PSF_RIN2

2. by continuous interaction with the client in the prebidding or the initial stage itself helps establish trust and confidence

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: PSF_RIN3

3. demonstrating past experience in doing similar work and references from those clients

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: PSF_RIN4

4. relying on past experience of having worked in same cultural context to win the client's confidence

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variables	Factor Loadings		
	Factor 1	Factor 2	Factor 3
PSF_IRP1	**0.791**	0.067	-0.368
PSF_IRP2	0.222	**0.810**	0.103
PSF_IRP3	-0.008	**0.831**	-0.118
PSF_IRP4	**0.707**	-0.011	0.381
PSF_RIN1	0.106	-0.266	**0.668**
PSF_RIN2	**0.649**	-0.073	0.460
PSF_RIN3	**0.780**	0.307	0.027
PSF_RIN4	-0.015	0.410	**0.795**
Eigen Values	2.558	1.571	1.371

Four factors extracted: 77% of variance accounted for.

Cronbach's alpha for items loaded (in bold) on factor 1: 0.74
Cronbach's alpha for items loaded (in bold) on factor 1: 0.64
Cronbach's alpha for items loaded (in bold) on factor 3: 0.45

The items loaded on each factor were combined to arrive at three composite measures.

APPENDIX H
Measures of Knowledge

I Types of Knowledge

D1 Individually held knowledge

D1a To what extent are each of the following dimensions or characteristics of individuals (staff members) involved in the projects of the firm critical for the business:

1. the individual's technical engineering knowledge (i.e., engineering concepts and formulas)

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. individual experience in the application of technical knowledge or in the process of tying together basic concepts to arrive at the final design

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

3. the individual's ability to adapt the engineering knowledge to specific needs of different clients

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

4. the individual's personality that is conducive to building a relationship with the client

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Cronbach's alpha: 0.32 for all four items and 0.61 for first three items.

D2 Team based knowledge

D2b To what extent does the team or teams you use for different projects have the following characteristics:

1. it is a blend of different engineering specialities required for a project

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. there is a cohesiveness that has evolved from the collective experience of people working together for a while

1	2	3	4	5
To no extent	To a small extent	To a fair extent	To a considerable extent	To a great extent

3. working together has created some synergies, e.g., new ideas and methodologies of work

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Cronbach's alpha for the three items: 0.65.

D3 Knowledge accumulated at the organizational level

D3a How important is it for an engineering consulting firm to provide organizational expertise to coordinate and manage a project.

1	2	3	4	5
Not important	slightly important	moderately important	very important	utmost importance

II Replication of knowledge variables

D1b To what extent would the following make it difficult for a business partner to copy the firm's expertise:

1. the process of application of knowledge to any specific problem lies in the thought processes of the individuals involved

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

2. Experience gained by individuals in applying and adapting engineering knowledge cannot be taken away

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Cronbach's alpha for the two items: 0.71.

D2c Based on the above features of the team or teams in your firm, to what extent do you think a business partner can replicate it (a team)?

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

APPENDIX I
Measures of Transaction Cost Factors

I Measures of Opportunism

To what extent do you face the threat of opportunism or opportunistic behavior of the following types in your business?

	1 To no extent	2 To a small extent	3 To a fair extent	4 To a considerable extent	5 To a great extent
From business partners					
Business partners walking away with your knowledge or expertise					
Business partners reusing your designs					
From clients					
Clients threatening to terminate a contract in the middle of a project					
Clients walking away with your ideas for a design in the prebidding stage itself to hire a cheaper consulting firm.					
Other					

Cronbach's alpha for two items capturing opportunism from business partners: 0.70.
Cronbach's alpha for two items capturing opportunism from clients: 0.30.

II Measures of Mitigators of Opportunism

D1b To what extent would the following make it difficult for a business partner to copy the firm's expertise:

Variable name: KN_ICOP1

1. the process of application of knowledge to any specific problem lies in the thought processes of the individuals involved

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: KN_ICOP2

2. Experience gained by individuals in applying and adapting engineering knowledge cannot be taken away

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: KN_TEAM

D2c Based on the above features of the team or teams in your firm, to what extent do you think a business partner can replicate it?

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: PSF_NHC2

C5f To what extent do you think it is difficult to replicate expertise of the same quality in another office of your firm? Comments.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

D5c To what extent do the following factors reduce the risk of business partners, (e.g., joint venture partners, associates/subcontractors), walking away with your knowledge and expertise:

Variable name: TC_ROPO2

2. engineering consulting is a peoples based business where relationships built over time with clients and business partners are critical. These are difficult to steal

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: TC_ROPO3

3. the nature of knowledge you apply in your service is embedded in individuals' intellect. Such knowledge is difficult to copy or steal

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: TC_ROPO4

4. the nature of knowledge you apply in your service is embedded in teams. Such knowledge is difficult to copy or steal

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: TC_ROPO5

5. the processes and methodologies of work are tailored to the firm's organizational context and culture.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: TC_ROPO6

6. misrepresenting facts will jeopardize the chances of a long-term relationship with your firm

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: TC_ROPO7

7. clients give credence to the entire breadth of experience that a business partner cannot walk away with.

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variable name: TC_ROPO8

8. the professional norms or ethics espoused by engineering consulting as a professional service are a deterrent to opportunistic behavior

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Variables	Factor Loadings			
	Factor 1	Factor 2	Factor 3	Factor 4
KN_ICOP1	**0.830**	0.082	0.044	0.157
KN_ICOP2	**0.778**	0.004	-0.017	0.273
KN_TEAM	0.263	**0.746**	0.043	-0.126
PSF_NHC2	-0.010	-0.522	**0.720**	-0.122
TC_ROPO2	0.236	0.039	**0.694**	-0.032
TC_ROPO3	**-0.874**	0.035	0.202	-0.064
TC_ROPO4	0.180	0.186	0.395	**0.642**
TC_ROPO5	0.171	0.055	-0.069	**0.838**
TC_ROPO6	-0.076	**0.744**	0.048	0.161
TC_ROPO7	-0.069	0.114	**0.713**	0.383
TC_ROPO8	-0.008	**0.826**	-0.087	0.152
Eigen Values	2.873	2.171	1.492	1.013

Four factors extracted: 69% of variance accounted for.

Cronbach's alpha for the items loaded on each factor (in bold) is over 0.6. Factor scores used in further analysis.

APPENDIX J
Measures of Country-specific Environmental Factors

Demand Conditions

II How important were the following factors in influencing your decision to partner with a local firm in the host country:

6. uncertainty about demand and adequate business in the future

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

III To what extent did the following factors cause you to choose an association or subcontractual arrangement over a joint venture:

	To no extent	To a small extent	To a fair extent	To a considerable extent	To a great extt
5. low potential demand	1	2	3	4	5
6. unstable political situation	1	2	3	4	5

VII How important were the following factors to the decision to set up an office (not just a project office):

	Not important	slightly important	moderately important	very important	utmost importance
2. it made sense in the light of potential demand	1	2	3	4	5

VIII How important were the following factors in driving your decision not to set up an office representing a more long term commitment in the host country:

	not important	slightly important	mod. important	very important	utmost import
7. Low potential demand	1	2	3	4	5

Country Risk – Political risk

III To what extent did the following factors cause you to choose an association or subcontractual arrangement over a joint venture:

	To no extent	To a small extent	To a fair extent	To a considerable extent	To a great extt
6. unstable political situation	1	2	3	4	5

VIII How important were the following factors in driving your decision not to set up an office representing a more long term commitment in the host country:

	Not important	slightly important	moderately important	very important	utmost importance
9. Political situation unstable creating volatility in economy	1	2	3	4	5

10. Personal security of staff in jeopardy because of political turmoil	1	2	3	4	5

Gap in Technical and Managerial Expertise

D4b How would you rate the host country local firms that you associated with relative to your firm with respect to the following issues:

1. the local firm's level of technical competence

1	2	3	4	5
much lower	lower	comparable	higher	much higher

2. the local firms/engineers managerial skills or the experience in organizing the whole project

1	2	3	4	5
much lower	lower	comparable	higher	much higher

Cultural Factors

II How important were the following factors in influencing your decision to partner with a local firm in the host country:

1. unfamiliarity with the country's social culture,e.g., language, work ethic

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

2. unfamiliarity with a country's business culture such as the contracting philosophy

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

V To what extent did the following issues motivate the decision to set up a solely owned subsidiary:

7. The firm had prior experience in the host country and thus was familiar with the culture and had existing contacts and connections in the country

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

Government Regulations

II How important were the following factors in influencing your decision to partner with a local firm in the host country:

4. govt. regulations requiring a portion of the project to be given to a local entity

1	2	3	4	5
not important	slightly important	moderately important	very important	utmost importance

IV To what extent was the decision to set up a joint venture motivated by the following factors:

1. host country govt. regulations, e.g., repatriation of profits

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

V To what extent did the following issues motivate the decision to set up a solely owned subsidiary:

5. Govt. regulations with respect to repatriation of profits made it necessary to set up a registered company

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

8. Other: Tax Liability requirements – to a great extent

APPENDIX K
Measures of Global Economies

Existing network of offices

B4c Do you have an existing network of different types of offices globally (other than project offices) ?

Yes ________ No________

Economies from use of Team

F1f . To what extent was the decision to do the design work in the home country motivated by the following:

5. to reap the economies of scale by using the team in the head office for multiple projects

1	2	3	4	5
to no extent	to a small extent	to a fair extent	to a considerable extent	to a great extent

APPENDIX L

Dependent and Independent Variables included in Analysis[1]

DEPENDENT/ INDEPENDENT	CONSTRUCT	VARIABLES
FOCUS • Project v market • Client-following or not PHYSICAL PRESENCE • Having an office or not -No office (temporary visits and project offices) -Office (sales or design office) CONTINUING LEGAL FORM • Having a continuing legal form or not • Choice of continuing legal form -Solely owned venture or -partnership form DEGREE of PRESENCE • Length of stay in host country in number of years	• Host region	• Host region -Demand conditions -Political factors -Cultural factors -Government regulations
	• Specialization	• Type of specialization
	• Global economies	• Economies from existing network of offices • Economies from a team/teams
	• Firm specific factors	• Size • Degree of internationalization • International revenue
	• Relationships	• Prior relationships at time of first entry into host country -relationships in host country -relationship with client -relationship with home country firm • Relationship building subsequently -with clients -with host country firm -with business networks in host country
	• PSF factors	PSF Characteristics • Reputation • Intangibility • Client consultant interaction • Customization • Nature of human assets • Role of references • Demonstrating firm's past experience in doing similar work • Firm's rapport with clients based on past relationship and experience
	• Knowledge	• Nature of knowledge -individually held knowledge -team held knowledge -knowledge of organizing • Replication of knowledge -difficulty replicating individually held knowledge -difficulty replicating team held knowledge
	• Transaction cost factor	• threat of opportunism from business partners • threat of opportunism from client • Mitigators of opportunism

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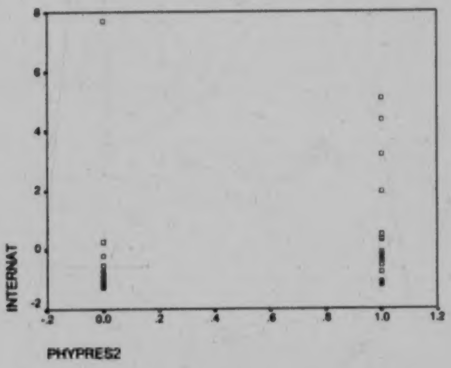
[1] Some factors such as government regulations, cultural factors, global economies, relationship building are not relevant to all four aspects of entry mode. Based on observations in Phase I, there was no theoretical basis for certain relationships. This is explained at the appropriate places in Chapter 5.

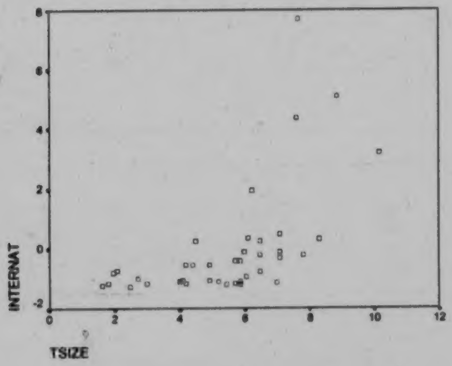
APPENDIX M

Scatter Plots

I Physical presence versus Degree of Internationalization (0=no office; 1=office)



II Size versus Degree of Internationalization



III Size versus Number of Offices